THE MODEL RAILWAY NEWS

Vol. 23 No. 268 APRIL, 1947 NINEPENCE

CONTENTS

Notes of the Month	73
This Two-rail business	74
Railway Topics	76
Modelling Narrow-gauge Railways	78
A Model L.N.E.R. line in Australia	84
Spring Draw-gear	89
Another Small Station	94
For the Bookshelf	96
Our Mailbag	96
With the Clubs	96

BOND'S

Gauge "OO" Fittings

19 mm. Driving Wheels, 16 spokes, brass, plated ... ... **1s. 6d.** each.
24 mm. Driving Wheels, 20 spokes, brass, plated ... ... **1s. 6d.** each.
26 mm. Driving Wheels, 20 spokes, brass, plated ... ... **1s. 6d.** each.
16 mm. Tender Wheels, 12 spokes, brass, plated ... ... **1s. 0d.** each.
Driving Axles ... ... **3d.** each.
Coach Disc Wheels, brass, two wheels on axle ... ... **6d.** each.
Round Head Buffers with **Square Base,** brass ... .. **3½d.** each.

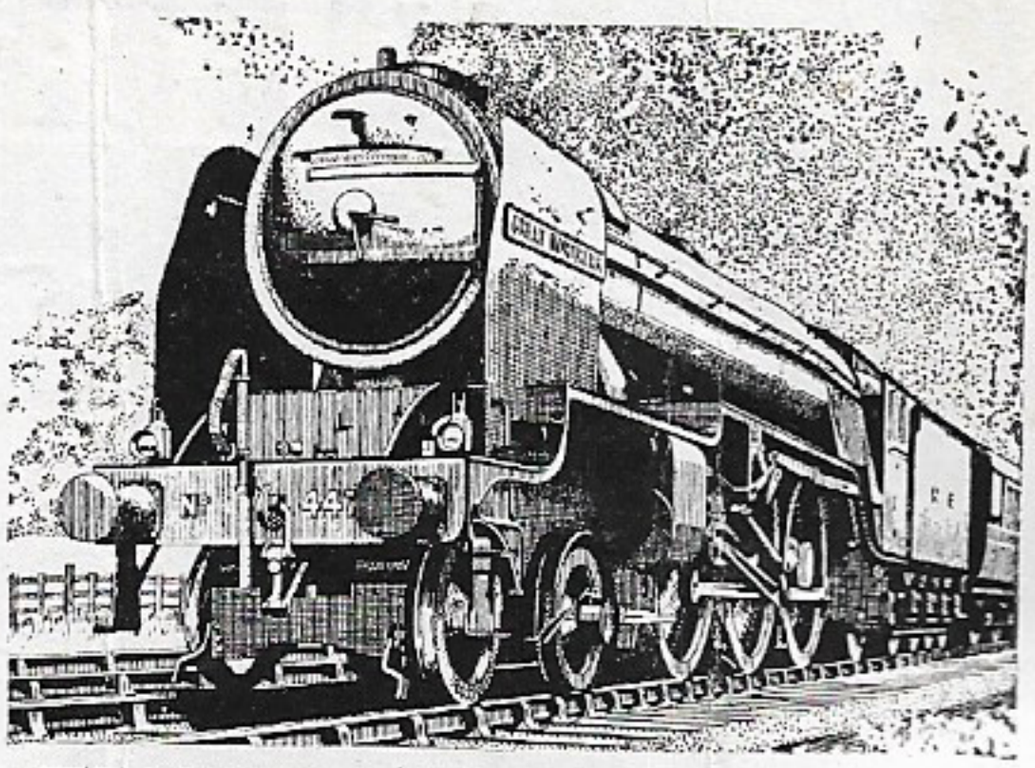
Gauge "O" Buffers

Round Head Wagon, brass **2½d.** each.
Round Head with **Square Base,** brass ... ... **4d.** each.
Oval Head with **Square Base,** brass ... ... **4½d.** each.

Plus packing and carriage.

Our general 96 page catalogue is now ready, Price **1s. 3d.**

Bond's 'o Euston Rd., Ltd.
357, Euston Road, London, N.W.1.
Est. 1887. *'Phone : EUSton* 5441-2.



'TITANS OF THE TRACK'

FAMOUS IAN ALLAN SERIES NOW
READY FOR DESPATCH

G.W.R., L.N.E.R., SOUTHERN ... **1/6**
L.M.S. **2/-**

Also available

TRAINS ANNUAL **7/6**
Edited by Cecil J. Allen.
GOLDEN ARROW ALBUM ... **1/6**
By Geo. C. Drury. Foreword by O. J. Morris.
VETERANS OF THE TRACK **1/9**
Illustrations of working old-timers by H. C. Casserley.
LOCOLLECTION, All photogravure ... **1/-**

IAN ALLAN LTD.
282 VAUXHALL BRIDGE ROAD, LONDON, S.W.1

Components for the Connoisseur

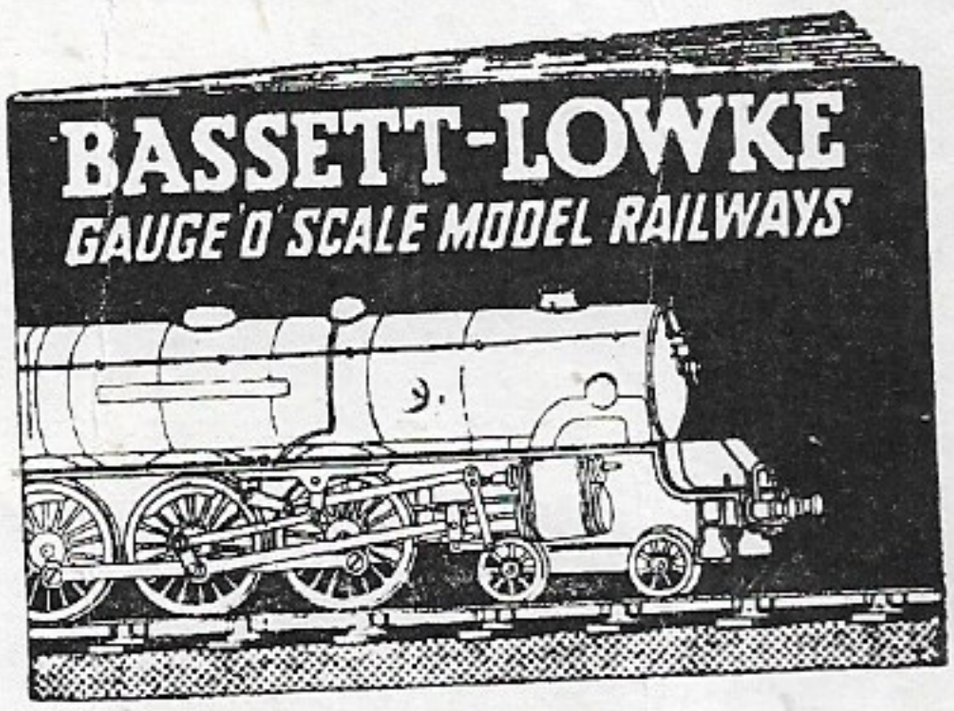
Available now from Stock:

COACH WHEELS on axles, painted (29 mm. only).
LOCO. CROSSHEADS for G.W.R., 30-in. stroke cylinders.
"O" & "OO" gauge DESTINATION BOARDS for certain G.W.R. main line routes expresses.
DRAWINGS : Full size "O" gauge, locos., coaches and wagons.
EXACT SCALE "O" GAUGE KEYED-TRACK PARTS.
CHECK RAIL CHAIRS for both straight and curved run of track (29 mm. standards only).

In preparation:

Track Parts—CONDUCTOR RAIL and CHAIR : Correct Southern Railway pattern and FLAT BOTTOMED VIGNOLES RAIL, 12-VOLT D.C. MECH.-UNIT COMPLETE WITH GEAR BOX to fit into almost any standard loco. firebox. (Orders for this can now be received.) *Trade Enquiries Invited.*

ROCKET PRECISION LTD.
18, LONSDALE ROAD, N.W.6



KEEP TRACK OF THE MODELS
Send now for the above catalogue (G/43), price 1/-
Keep in touch with our increasing output of the finest model locomotives, rolling stock and equipment made. The shortage of materials and parts makes it difficult for us to meet the demand for our steam, electric and clockwork models, but the catalogue shows the prices of those available and delivery dates of future models.

BASSETT-LOWKE LTD.
NORTHAMPTON
LONDON : 112, High Holborn, W.C.1.
MANCHESTER: 28, Corporation Street, 4.
Write also for :—"How to Build a Traction Engine," price **6d.** "Laying Permanent Way," price **6d.** "The Model Railway Handbook," price **5s.,** post 4d. Model Supplies (L/43), price **6d.**

EDWARD EXLEY (SALES) & CO. GAUGE "O"

Couplings. Single link or 3 link, **3d.** each.
Coach Bogies. Sprung, compensated, steel wheels, **18s. 6d.** pair.
Coach Gangways. Concertina type, **2s. 6d.** each.
Coach Wheels. Steel disk on steel axles, 21 mm. dia., **1s. 6d.** pair.
Sleepers. Coarse or Fine scales. Stained, hard wood, **3s.** 100.
Battens. 36 in. long. Unstained, **6s.** doz.
Special sizes of sleepers and battens cut to order.
Coaches and other parts available in limited quantities. Stamped addressed envelope for current list. Post extra on all orders.
Goods to META standards.

Gauge "OO"

Sleepers. Coarse scale only, **1s. 6d.** 100.
Posters. 12 assorted per sheet, unique, of small town printers' bills. Coloured, **3d.** each.
(Suitable "O" gauge also.)

EDWARD EXLEY (SALES) & CO.
522, Little Horton Lane, Bradford, Yorks.

MODEL RAILWAY CLUB EXHIBITION

Easter Week, Tues. April 8 to Sat. April 12

The work of members of the Model Railway Club—steam and electric working models, locomotives, coaches, wagons, signal systems, permanent way, etc. Free rides on model railway.

CENTRAL HALL, WESTMINSTER

Tuesday 2 p.m. to 9 p.m.; thereafter 11 a.m. to 9 p.m.
Admission: Adults 2s. 3d. Children 1s.

LOCOS. 8/12 D.C., GAUGE "O"

L.M.S. Class 2, **£25.** L.M.S. (L. & T.S.), 4-4-2T, **£32.** L.M.S. 0-6-0 Tank, **£12.** G.W.R. "King," **£30.** G.W.R. "Saint," **£28.** G.W.R. 2-4-2 Tank, **£18** L.N.E.R. K3, **£30.**

WAGONS, GAUGE "O," GRADE I

A few only—Airedale, Bullcroft, Sheepbridge, Bolsover, **28s. 6d.** L.M.S. and L.N.E.R. five-plank opens, **27s. 6d.** L.N.E.R. three-plank opens, **25s. 6d.** L.M.S. E. Dept., **26s. 6d.** Also, a number of P.O.S. and Companies' Wagons with opening doors, working brake gear. State exact requirements. Postage extra.
"O" or "OO" Parts List **3d.**, *per post.*

TYLDESLEY & HOLBROOK, *M.E.T.A.*,
109, Deansgate, Manchester 3.

Modelcraft's
SCENIC BACKGROUNDS
for Model Railway Layouts

Designed by a leading scenic artist, these "Backdrops" cover industrial, urban and suburban areas, port, airport, sea-scape and landscape scenes. They are ingeniously designed to be run together in any order, and all 10 of the sheets in the set can be joined to any one of the others. Duplicates of individual sheets can be ordered.

4/6 a set of 10 sheets, 3d. postage.

Modelcraft's February
Magazine & List

Coloured card cover. 48 pages of articles, hints, notes and news. Nearly 350 plans, planbooks, kits and accessories listed. A necessity to the experienced modelmaker, an inspiration to the beginner. Direct, or from your model shop **1/-**

LIST ONLY 6d.

Modelcraft Ltd. 77 (MR.) Grosvenor Rd., London, S.W.1

POWER UNITS

Shenphone Power Units operate from the A.C. mains and supply a constant source of low-voltage direct current power for all purposes where accumulators would normally be used.

Batteries and their attendant trouble and uncertainty are completely eliminated.
Detailed leaflet available on request.

CONTROLLERS

C.1.S.P.—"OO," Panel-mounting, 12-volt, "split potential" reversing controller. Max. current 0.75 amp. Price **36s.**
C.1.—"OO." Panel-mounting, 12-volt, single supply reversing controller. Max. current 0.75 amp. Price **39s.**
C.2.S.P.—"O." Panel-mounting, 12-volt, "split potential" reversing controller. Max. current 1.5 amp. Price **36s.**
C.2.—"O." Panel-mounting, 12-volt, single supply reversing controller. Max. current 1.5 amp. Price **39s.**

(Literature not yet available.)

Regret delivery of most items a little delayed at present.

SHENPHONE
ELECTRICAL PRODUCTS
226, High Road, Leyton, London, E.10.
(*LEYtonstone* 1362.)

WALKERS & HOLTZAPFFEL
(RETAIL) LTD.
61, BAKER ST., LONDON, W.1.
Tel.: Welbeck 8835

"ROMFORD" Gauge "OO" WHEELS for 16.5 and 18 mm. gauge.
Standard: Driving, 26, 24, 21 and 18 mm. Per Set (two wheels on axle), **3s.**
Tender: 16 mm. **Bogie:** 14 and 12 mm. **9d.** each.
Insulated: Driving, with nickel rims, sizes as above, **2s. 6d.** each.
Per Set (one insulated, one standard, on axle), **4s. 6d.**
Tender and Bogie, sizes and prices as above.
To insulate, fit to Peco-Insul axles.
For Inside Bearings, **1s.** per pair of axles.
For Outside Bearings, **1s. 1d.** per pair of axles.

Orders now accepted for "ROMFORD" Mechanisms for both 16.5 and 18 mm.

Prices of these, and many other items of interest, in our new four-page Folder, **2d.** (post free).

Post extra on all above

Second-hand Equipment sold and bought.

STANDARD 'OO' GAUGE
16.5 mm. Gauge. 4 mm. Scale

MANY NEW LINES
for your post-war railway are in course of preparation
IN THE MEANTIME WE CAN SUPPLY
DIE-CAST PARTS.
WHEELS. (LIMITED RANGE)
FITTINGS. FOR LOCOS, etc.
Send for illustrated list
M46. PRICE 2½d. POST FREE

STEWART-REIDPATH LTD.
DI, HERNE, HERNE BAY, KENT

THE ZENITH MODEL CO. LTD.
AT LAST!
ZENITH MOTOR UNITS being delivered against outstanding orders.

Due to the present limited output, it will be some time before our present commitments can be met, in addition to which shortage of raw materials may cause further considerable delays. Be sure to book your order through your usual retailer for delivery in strict rotation.

Amended Specification (now MKIV units)
ARMATURE. Five pole.
OVERFRAME. Milled from solid brass.
BEARINGS. Phosphor-bronze journal bearings combining ball thrust. Improved lubrication.
MAGNET. 35 per cent. cobalt steel of special design.
COMMUTATOR. Five segment copper.
BRUSH GEAR. Highly efficient, self aligning.
GEARS. Correctly cut steel worms meshing with hobbed brass worm wheels. Supplied in 25, 30 or 40-1 ratios.
MKIV MOTOR UNITS (16.5 mm.) ... ... **£2 15s. 0d.** each
MKIVA MOTOR UNITS (18 mm.) ... ... **£2 15s. 0d.** each
Illustrated price lists, **3d.** post free.
Zenith products are obtainable only from normal retailers.
Trade enquiries to:—
41, VICARAGE ROAD, SMETHWICK, 41

CHERRY'S of RICHMOND
DEALER
The Leading Model Railway Specialists
LARGE STOCKS OF
"1" gauge locos and equipment
"0" gauge locos and equipment
Several hand made detailed scale "00" locomotives and rolling stock.
SKINLEY BLUEPRINTS AND CATALOGUES.
FULL RANGE STEWART-REIDPATH "00" CASTINGS
EXPERT REPAIR SERVICE
We will buy your railway
Call — Write — or 'Phone
CHERRY'S
62, Sheen Rd., Richmond, Surrey.
Telephone: RIChmond 2454
Hours of business: 9 0 *a.m. to* 7 0 *p.m.*
Wednesdays: 9 0 *a.m. to* 1 0 *p.m.*

THE
MODEL RAILWAY NEWS

Offices: 23, GREAT QUEEN STREET, LONDON, W.C.2

VOL. 23. No. 268. APRIL, 1947. Ninepence

NOTES of the MONTH

These Difficult Times

THE conditions in which our March issue was produced were, of course, shared by the entire publishing profession; but, whereas monthly periodicals have managed to maintain unbroken, if somewhat delayed, sequence, weekly journals were not so fortunate, in that at least two consecutive issues had to be abandoned. Such a situation has not, we believe, been experienced before in this country, and was due primarily to the extreme severity of the weather precipitating an unheard-of fuel shortage. However, we have survived it; but there seems to be another unpleasant prospect ahead in the form of a severe cut in paper rations. Just how this will affect THE MODEL RAILWAY NEWS, we are not able to say, for the moment; but we shall, of course, fall into line with all other publishers. Readers may rest assured, however, that we will do our utmost to serve them as well as the circumstances will allow; but a shortage of paper is hardly likely to lead to the intense discomfort brought about by a shortage of fuel, and we can but hope that we may not be called upon again to undertake editorial routine work by candlelight and in extreme cold!

Henry Greenly

WE very much regret to hear of the death of Mr. Henry Greenly, which took place, at his home, on March 4th last. He was 70 years of age and had been ill for a long time. Model railways owe a great deal to his energy, untiring work and undoubted technical ability; and, although it is in the realm of model steam locomotives that he was best known, he was one of the pioneers in the electrical operation of small-scale model railways. Greenly's later activities were as a consulting engineer, but his interests were always primarily concerned with models. In his early days he was sub-editor of *The Model Engineer*, under Mr. Percival Marshall. Afterwards, he became consulting engineer to Messrs. Bassett-Lowke Ltd., for several years, during which time he founded and edited *Models, Railways and Locomotives*, a magazine which achieved a wide popularity, until war conditions forbade its publication after 1917. For some years after 1925, Greenly was a prolific writer for THE MODEL RAILWAY NEWS, and did much to set our magazine upon a firm foundation, and he maintained, almost until the last, a friendly interest in our welfare. He will be missed by all who were privileged to know him.

Apologia

WE regret that through inadvertance, the title of the article by Mr. G. O. Collins, on page 33, of our February issue, was wrongly printed. It should have been "A 7-mm. Scale L.M.S. Railway,"

In Mr. Maskelyne's "Railway Topics," for December last, page 231, column 2, the name "Twyford" should have read "Taplow." The actual length of down main line referred to is from Taplow Up Distant Signals westwards to Maidenhead East Signal-box; but the actual continuity of the flat-bottomed rail is interrupted by standard bull-head track at the Maidenhead East crossover.

THIS TWO-RAIL BUSINESS

A Reply to Some Criticisms

By SIR ERIC A. O. HUTCHISON, Bt.

I CANNOT help feeling that there is a bias in this country against two-rail, and that those who are loudest in its condemnation are those who have least practical experience of it. This, to my mind, is very wrong. My answer to these armchair critics is this : for some years now, two-rail has been standard practice in America, so much so that wheels are now regularly supplied ready insulated. That this is so is obvious if you read the "Model Railroader" or look at any American model catalogue. Are the Americans then complete fools, or can it be that two-rail is not such a flop as some people would have us believe ?

I have been experimenting spasmodically with two-rail since 1927. Readers of THE MODEL RAILWAY NEWS of those days may remember an article of mine on page 278 of the 1929 issue. Results even in those early times were quite good, but in recent years have been so promising that when I was planning the post-war reconstruction of my line I decided, in addition to adopting 12 volts and B.M.R.S.B. fine standards, to go the whole hog and convert to two-rail also. Believe me, this decision was not taken in a light-hearted spirit of pious hope, for 32 locomotives were involved, together with a proportionate amount of rolling stock. Although in my opinion efficiency and reliability must take precedence over appearance, experience over the past year has confirmed the view that two-rail is every bit as practicable and satisfactory as three-rail, and I would never dream of giving it up.

Here are some of the criticisms which I have heard, and my answers to them, based on work during the past year.

Appearance. Why, some people ask, go to all the bother of two-rail just for the sake of appearance ? Surely this is a childish view to take. We are, or at least we should be, striving for realism, and it seems to me just as logical to say that, if appearance does not matter so much, we might as well leave hand-rails or domes off our engines. A locomotive without boiler mountings would be as unreal as a steam train running on an electrified line, provided always that a third rail does not exist in the prototype, and that three rails are not essential to efficient operation.

Track. Some people say that steel rail is no good. Personally, I would fight shy of it simply because of the danger of rust, but as steel rail is pretty well universal in America (I believe that one cannot get rail of any other material there now), it cannot be so bad as it is thought.

I have both the old heavy brass rail and the new scale nickel silver rail in use, and there seems to be nothing to choose between them so far as running is concerned. Owing to other urgent jobs I have as yet not had time to bond the rail joints, but though the layout covers 70 ft. × 20 ft. and current is so far led in at only one point, running —and, what is more important, starting—is perfect all over the track in spite of the fact that the rail has not been cleaned for over three months.

It is said that with two rail track must be absolutely dead level. After all, if you want good running, you must have good track, no matter whether you run on three rails or two. But I have one or two sections of my pre-war system incorporated in the new layout, and although these have suffered badly from being stored in not too dry a stable during the war and are therefore anything but level, running is no worse than it would be with three-rail. However, to get over the bugbear of wavy track, I am now laying all my line on $\frac{1}{8}$-in. thick card, to which the $\frac{1}{8}$-in. sleepers and ballast are glued. This card comes in sheets about 4 ft. × 3 ft. It is the material from which book covers are made, and is obtainable from most large bookbinding establishments. This method irons out any little irregularities in the baseboards and at the same time gives a dead silent track.

Wheels. Until insulated wheels are obtainable commercially, this is where the only snag in two-rail lies. The method I use for converting the old "steam-roller" wheels is briefly as follows.

Wagon and bogie wheels can be reduced to the required width of $3\frac{1}{2}$ mm. by having the excess material turned off the face. The axle-hole is drilled out and a plug of fibre about 0.003 in. larger than the hole is forced in. This is drilled 0.002 in. smaller than the axle, which is forced in and the whole given a light finishing cut on the lathe.

Mansell wheels cannot be reduced in width by removing material from the outside, because of the necessity for preserving the detail on the wheel face. They must therefore be turned down from the back, and this, of course, means that the flange is sacrificed. A new tyre must be turned up out of mild steel tube and forced on, the wheel naturally being reduced in diameter over the tread so as to fit inside the tyre. Between wheel and tyre I use as insulation a material called "Phiberoid," which is a thin but very tough form of jointing used in motor engines. If a clearance of 0.004 in. is allowed between tyre and wheel, this will be found to make an absolutely secure job.

Driving wheels are treated similarly to Mansell wheels. Incidentally, I might mention that it is generally possible to fit steel tyres to Newalloy wheels. I say "generally" because Newalloy castings are apt to have blow holes in them, and sometimes when you think you are getting on nicely with your turning your tool strikes a blow-hole and the wheel goes to glory. Still, by using a very light cut it is usually possible to make an excellent job.

If insulation breaks down or wheels or tyres work loose, it can only be due to incorrect clearances. Here I would like to say a word of praise for the idea behind the wheels put out by W. H. Walthers, of America. These have steel tyres and brass centres, in which is an arrangement for automatically quartering the wheels, and the spokes and rims are moulded on to the tyres and centres in a material known as Tenite. It is an extremely tough, though not brittle, form of bakelite. To admit of the wheels being used with three-rail operation, a fine wire earths the wheel centre to the tyre: for use with two-rail, it is only necessary to break the wire and so insulate the tyre. From the British point of view, these wheels are on the heavy side for many engines, though for certain goods types they are excellent, and they are certainly cleverly conceived and, like all other American model equipment, beautifully made.

I have heard it said that sprung wheels are essential in two-rail work. They may be desirable, just as they are with three-rail, but they are certainly not essential. None of my engines and no engine that I have yet seen has sprung coupled wheels, and in my experience the lack of springing is no drawback whatever.

Current Collection

(*a*) *Rail to wheels.* Some people contend that a form of sliding contact on the rails is necessary with two-rail, but, illogically enough, they do not claim that it is required with three-rail. Now, in my old three-rail days, I was often troubled by bad starting. No matter how clean the rails and wheels were, the annoyance persisted. If a wire were touched from the track to a wheel, still nothing happened, but if it were touched to any unpainted part of the locomotive body, starting was instantaneous, and once on the move the engine would keep on running well. I may be wrong, but I put this down to the resistance of certain types of oil. The more one oiled the axles, the worse did the trouble become. If this really is the cause, then two-rail gets over the difficulty completely. And since I find that starting is now perfect, even on track that is far from clean and with a considerable voltage drop, I am strongly inclined to blame the oil.

(*b*) *Wheels to motor.* Practically all my engines have light spring plungers bearing up against the back of the tyres, but in one or two mechanisms I have, as a temporary measure, fitted narrow strips of phosphor-bronze bent so as to rub on the tyre backs, and these, though simple in the extreme, seem to be perfectly satisfactory. I have on my line at present Mr. Thornburgh's truly superb G.W.R. 2-2-2 (see MODEL

RAILWAY NEWS, 1936, page 15). This has these simple phosphor-bronze contacts, which have functioned perfectly over a number of years, so I think we may take it that they are just as satisfactory as other and more complicated arrangements.

Conclusions. My experience has been that two-rail is superior to three-rail in starting and in appearance, is simpler at points and crossings, requires no more maintenance than three-rail, and possesses none of the drawbacks with which some people credit it. I feel that if model makers will show a little more progressive spirit and will try things out for themselves instead of merely accepting what they are told, they will prove the truth of my assertions.

RAILWAY TOPICS

By J. N. MASKELYNE, A.I.Loco.E.

New Locomotives

THE year 1947, apparently, is to see some fairly extensive additions to British railway locomotive stocks, judging by recent observations I have made. During the last week in February, I was leaving Paddington by an afternoon train, one day ; and, as we were passing the yards just outside the station, I happened to be looking across the compartment towards the window at the opposite side from where I was sitting, when something bright with new paint caught my eye. Of course, it was gone from sight almost as soon as I had seen it ; but I was practically certain that I had seen something *new* and not merely a repainted engine. Moreover, it was a tank engine, and it puzzled me. I kept a sharp look-out during the next day or two, but saw nothing to confirm my impressions. I put out a few judicious enquiries and soon obtained information enough to convince me that I had caught a fleeting glimpse of No. 9401, one of a new class of 0-6-0T shunting engines with pannier-tanks, tapered boilers and inside cylinders. At the moment of writing, I have no further particulars of these engines, but I hope to be able to illustrate and describe them soon, as they are certainly something novel, though I believe that they have been evolved entirely out of standard details.

The L.M.S. Class 2, 2-6-2T, engines, described and illustrated last month, have made an appearance at Euston, some of them having been allocated to carriage-shunting duties there. I have not yet seen any of the Class 2, 2-6-0 tender engines, however ; perhaps the London area is not in urgent need of such engines.

On the L.N.E.R., the number of B1 class mixed-traffic engines is growing apace. Examples can be seen at Liverpool Street and King's Cross stations at any time of day now ; and I have found them even at Marylebone. If present orders are all completed, there will be no fewer than 400 engines in this class.

On the Southern Railway we can look forward to seeing the introduction of Mr. Bulleid's 6-cylinder 12-wheeled tank locomotive for mixed-traffic work ; the first engine will probably follow quickly after the last of the present order for "West Country" Pacifics is finished. I think I can see my camera being kept busy this year !

L.N.E.R. Widening between Northallerton and York

As part of its post-war programme for improving the train-running facilities the L.N.E.R. is to spend £377,000 in completing the widening of the main line between Northallerton and York. The permanent way portion of the scheme will cost approximately £250,000 and the signalling work £120,000.

In addition to a heavy and important passenger service, the main line between Northallerton and York carries the whole of the L.N.E.R. freight traffic between Scotland, Tyneside and Tees-side and the South. The importance of increasing the running facilities over this section of the main line has long been recognised by the L.N.E.R. and the ideal in view has always been the provision of a route between Tees-side and York independent of the route between Newcastle and the North and York. This in turn has been part of a

co-ordinated plan which includes the re-modelling of York passenger station and the provision of a new goods yard at York.

Considerable progress has been made in recent years towards quadrupling the lines. In 1930 duplicate lines between Northallerton and Otterington and between Beningbrough and the north side of Skelton Bridge were approved and the work was completed in 1934. In order to deal with the heavy increase in traffic during the war, further schemes were approved in 1941 for providing duplicate lines in each direction through Thirsk station and between Thirsk and Pilmoor, and for the construction of an additional line across the Ouse at Skelton in conjunction with a group of new marshalling sidings at Skelton. These works were brought into use in 1942.

An additional line for $4\frac{3}{4}$ miles from Pilmoor to Alne and a further line over the Ouse at Skelton are now to be constructed to eliminate the last two bottlenecks between Northallerton and York and enable the maximum benefit to be secured from the widenings previously carried out. The work at Skelton will involve building an additional line immediately north of Skelton Bridge, which will cross the main lines by means of a "fly-under" and thereafter continue into the York marshalling yards over the River Ouse, where a new bridge will be constructed.

The new lines will be equipped with colour light signals of the three and four aspect automatic and semi-automatic searchlight type and will be track circuited throughout. The opportunity will also be taken to equip with similar facilities the additional lines provided between Pilmoor and Thirsk during the war, which will mean that all the running lines between Northallerton and York will in future be provided with modern colour light signalling and track circuiting safeguards.

The provision of two running lines in each direction for the whole distance between Northallerton and York, fitted with modern colour light signalling, will make an important contribution towards the plans of the L.N.E.R. for increasing and speeding up the passenger services and for the running of more fast braked freight trains as part of the Company's policy to improve the transit of merchandise.

A "Terrier" Restored

It is now fairly common knowledge that the Southern Railway recently withdrew the 0-6-0 class "A1" tank engine No. 380S from its duties as works shunter at Brighton, overhauled it and repainted it in the old Stroudley livery of the erstwhile London Brighton and South Coast Railway. When I first heard the rumour that such a scheme was on foot, I was delighted; any lover of the good old Brighton line—and there are still hundreds of them, besides myself—would naturally be overjoyed on hearing such news. At the moment of writing, I have not seen either the restored engine or a photograph of it; but I have heard quite a lot from one or two privileged persons who have seen the engine, and what I have heard has rather tempered the excitement. I am told that the colour is not right, that there are errors in the lining, and that the name, *Boxhill*, instead of having the letters nicely and boldly spaced out, is crowded together in the middle of the tank-sides, with an incongruous effect.

I find it hard to understand why a railway company should have so much apparent difficulty in achieving accuracy when restoring an old locomotive. I can think of no locomotive restoration yet that is exactly correct in all details! Why should this be? One might be pardoned for assuming that a railway company would have all necessary information readily to hand; yet, apparently, the assumption is usually far from the fact! It would seem that when a locomotive, in the course of its active career, is rebuilt or modified in any way, all record of its original condition is destroyed; and if restoration is undertaken for the benefit of posterity, the work involved seems to be very much a matter of guesswork. I am ready to wager that there are to be found, almost anywhere, plenty of locomotive enthusiasts who, given the chance and facilities, could restore a locomotive to its original condition and produce a result which would be at least 99.9 per cent. correct. This *is* a strange world!

MODELLING NARROW-GAUGE RAILWAYS

By R. E. TUSTIN

THERE must be a large number of enthusiasts who were very interested in the article on page 195 of the October, 1944, issue, in which Mr. Eric Ginns describes his "O" gauge outdoor branch line. His description proves that it is possible to lay and operate electrically this small gauge in the open without it being badly affected by weather conditions.

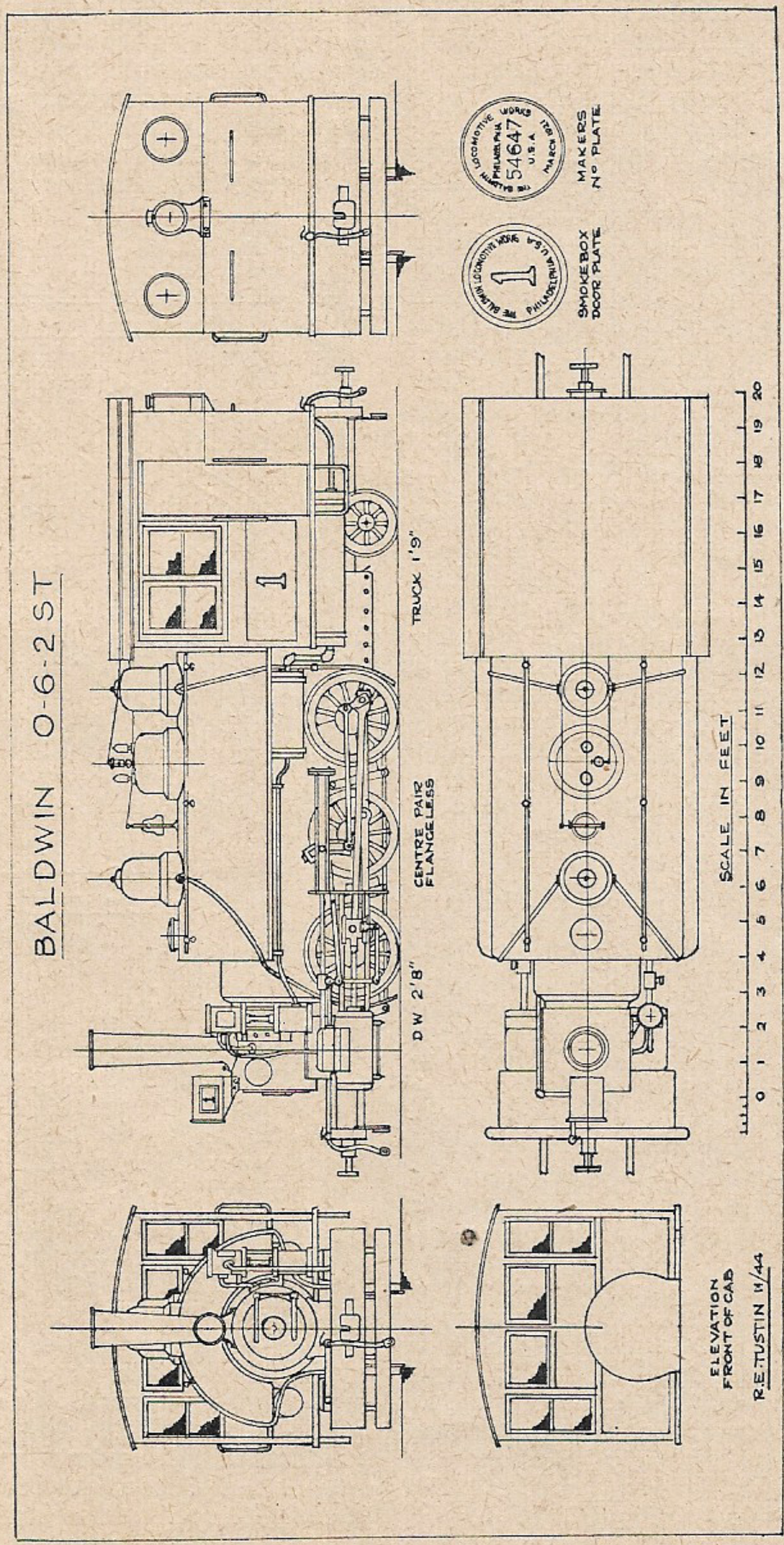
On one point, however, I would like to criticise. Mr. Ginns refers to 4-mm. scale Hornby "Dublo" and "Trix" rolling stock being used. At the junction with his "O" gauge line this must look a little incongruous. Surely it would be better to build some rolling stock based on an actual narrow-gauge railway for operating the branch. This could be 7-mm. scale to correspond with his standard gauge stock, but the "OO" track would represent half standard gauge—2 ft. $4\frac{1}{4}$ in.—a very suitable dimension for a small "feeder" line.

There are quite a number of railways in Great Britain which would meet the case as subjects for modelling and although the gauge of none of them is exactly 2 ft. $4\frac{1}{4}$ in., the difference is so small that only the most fastidious stickler for dead scale would object. Several small branch lines immediately come into one's mind—the Great Western Railway's Welshpool to Llanfair, Vale of Rheidol and Corris branches; the old Tal-y-Llyn; the late lamented Lynton and Barnstaple, and Welsh Highland lines, and, of course, the ever-youthful Festiniog. Similar lines are very common abroad and, in some cases, there are quite extensive systems.

By adopting an actual narrow-gauge prototype the owner has most of the advantages of both the 4-mm. and 7-mm. scales, for he can use very sharp curves and thus make the line fit into awkward corners where normal "O" gauge could not be run and at the same time he can build stronger stock and apply a greater wealth of detail than is possible with normal "OO" and "HO" scales. Locomotives could be more powerful in comparison with their size for these small branch-line engines could be built around the largest "OO" motors fitted with about 14-mm. diameter driving wheels. Another most convenient feature is the central combined buffer and coupling which is common on all narrow-gauge stock and would eliminate the usual trouble of "buffer lock" so often found on sharply-curved model railways.

There are also many 7-mm. scale enthusiasts who prefer indoor railways and will be starting up again after the war in new (and possibly pre-fabricated) homes, where in all probability space will be even more at a premium than it was in 1939. A complete narrow-gauge system would appear to be the solution to their problems for on such lines platforms, loops and sidings are always very short and the curvature on points, etc., can be made quite sharp, thus considerably reducing the space required. A snag is, of course, the conductor rail which would look very out of place on such a line, but there seems to be a likelihood that two-rail traction will be much exploited as soon as manufacturers can start production again, and this would solve the appearance problem. Flat-bottomed (Vignoles) rail would look best, but there are several lines which use chaired track so this would not be out of place.

This "one scale on another gauge" business is not by any means new. I know of a really excellent model of the Lynton and Barnstaple Railway in 7-mm. scale on "OO" track which has been held up by the war. A model of the Baldwin 2-4-2T "Lyn" was completed in 1939 and she looked a first-class job in every way. I also remember seeing a similar model of one of the L. & B. Manning Wardle 2-6-2Ts at a MODEL ENGINEER Exhibition a few years ago. The possibilities are not restricted to 7-mm. scale, however, for the same ratio applies to $\frac{1}{2}$-in. scale (normal $2\frac{1}{2}$-in. gauge) on "O" gauge track for those who want larger models. A Derbyshire friend of mine was building recently some experimental

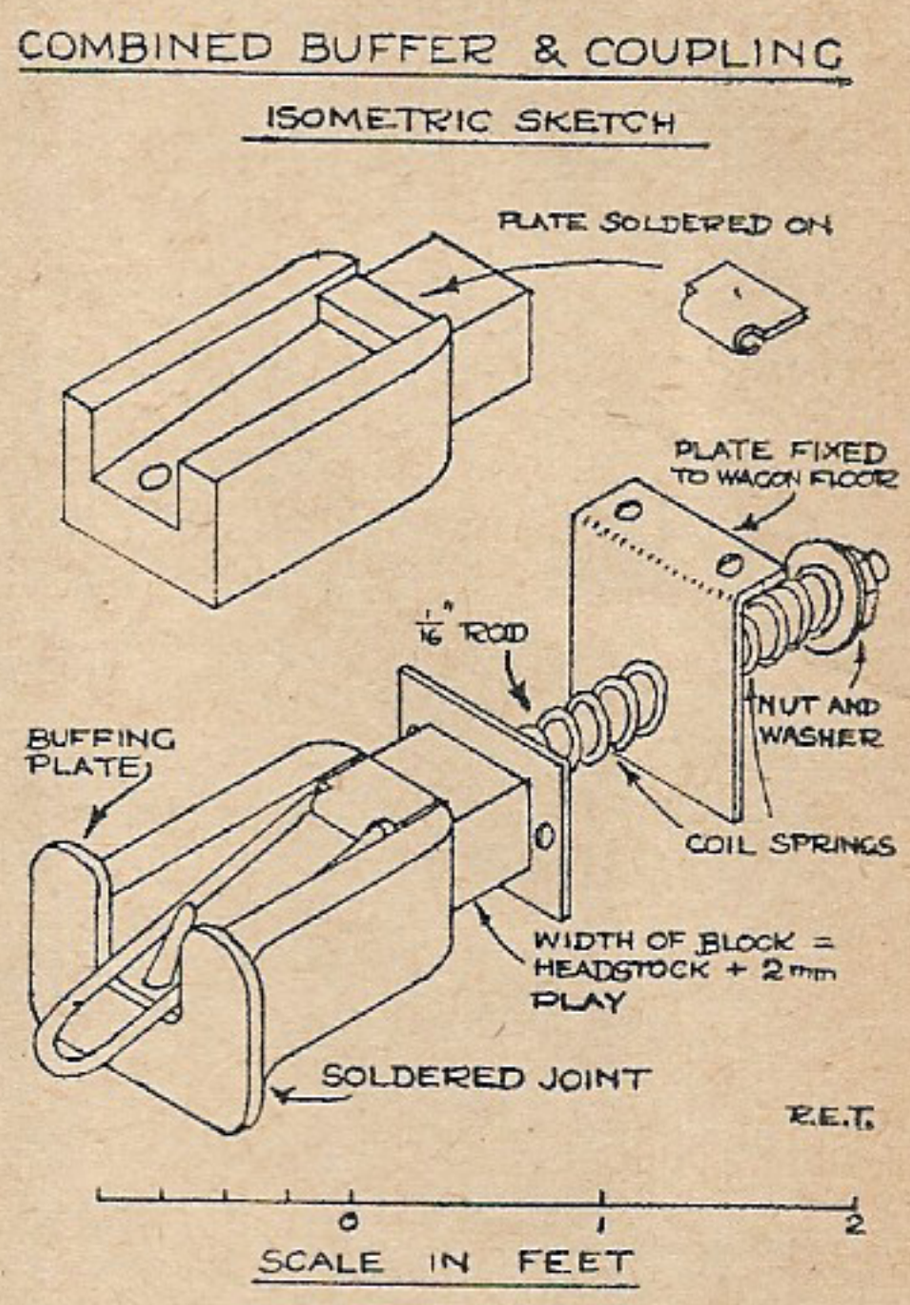

BALDWIN
0-6-2 ST
TRUCK 1'9"
CENTRE PAIR FLANGELESS
D W 2'8"
MAKERS Nº PLATE
SMOKEBOX DOOR PLATE
SCALE IN FEET
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
ELEVATION FRONT OF CAB
R.E. TUSTIN 11/44

cardboard models of the Glyn Valley tramway for a garden railway in this scale and the results were most interesting. Another friend at Huddersfield possesses three ½-in. scale "free-lance" locomotives (one of them steam), and they also look most attractive.

I can only recall one article in THE MODEL RAILWAY NEWS concerning narrow-gauge railways. This contained some very good drawings of stock on one of the South African Railways' 2 ft. 0 in. or 2 ft. 6 in. gauge branch lines. If my memory serves me right, it appeared in 1934 or 1935. In view of the lack of information on the subject, readers may be interested in the accompanying drawings.

Whilst in the Middle East, I have been able to visit a 2 ft. 6 in. gauge line used for carrying ore from some copper mines to a nearby port. This company employs two types of locomotive, a 0-6-2ST for shunting on the port loading staithes and a 2-8-2ST for main line haulage. Saddle tanks are probably the most satisfactory type to model for the added height given by the tank enables a much larger motor to be fitted than would be possible in the case of side tanks. On a model line the 0-6-2ST with her 2 ft. 8 in. wheels would be very suitable for working the passenger traffic and the 2-8-2ST for the freight.

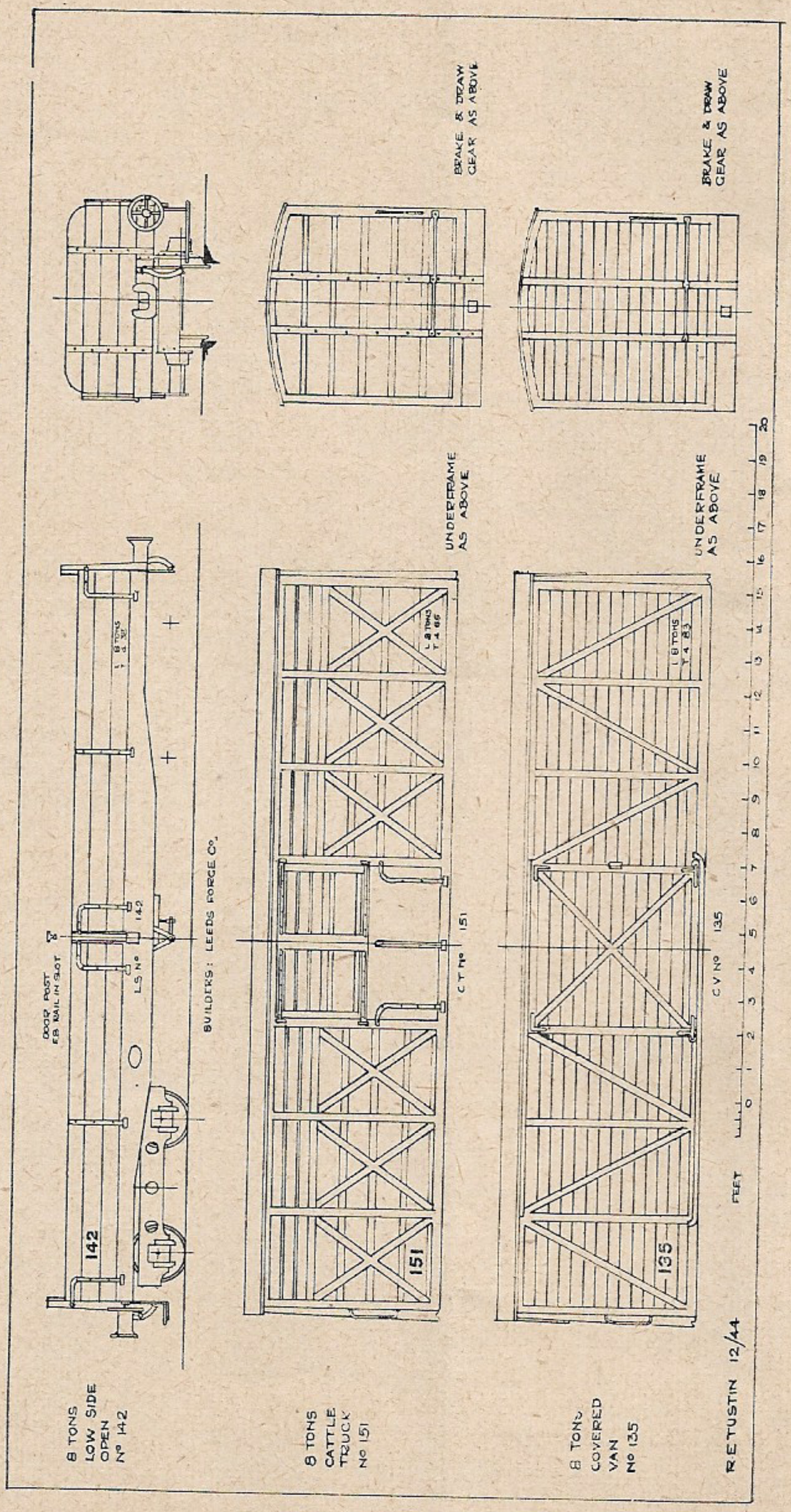
I think the drawings make themselves clear on most details. I have modified the actual engines slightly to facilitate modelling, and, of course, the gauge is amended to 2 ft. 4¼ in. They are both built by the Baldwin Locomotive Works, of Philadelphia, U.S.A., and appear to be standard designs purchased "off the rack," as it were, so they will quite possibly be found on 2 ft. 6 in. gauge lines in other parts of the world. They both have bar frames, as is usual in "Yankee" practice, and timber cabs with sliding windows. The contraption between the headlamp and the stack on the 2-8-2 is the generator for the electric supply to the front and rear headlamps — apparently the 0-6-2ST uses oil or acetylene. The Westinghouse brake air reservoirs are fitted to both sides of the engines. It is interesting to note that the usual British type standpipes for the brake coupling hoses are not provided. American pattern "buck-eye" auto-couplers are fitted to the actual engines, but in view of the numerous types of combined buffer and coupling used on narrow-gauge lines I have shown them purely diagrammatically merely to give a rough idea of the size of the fitting, leaving the actual design to suit the owner's choice. As I have no literature handy on how to draw out Walschaerts gear, I have had



to guess the relative positions of the coupling-rods, crosshead and the various other rods for the position in which the motion is standing. If I am not correct in this matter, please forgive me, on the grounds of the "exigencies of the service."

The prototypes are painted light green on superstructure and wheels with black smokebox and framing, and white cab roof and numerals.

The accompanying drawing shows three typical freight wagons in use on a 2 ft. 5½ in. gauge Government light railway in the Middle East. It is interesting to note, incidentally, that these wagons also work on the 2 ft. 6 in. gauge mineral line referred to in my previous article, the ½ in. difference in gauge being apparently of no concern from the safety point of view. The main


BRAKE & DRAW GEAR AS ABOVE
BRAKE & DRAW GEAR AS ABOVE
UNDERFRAME AS ABOVE
UNDERFRAME AS ABOVE
L & T Nº 142
L & T Nº 151
L & T Nº 135
DOOR POST FOR RAIL IN SLOT
LS Nº 142
CT Nº 151
CV Nº 135
BUILDERS: LEEDS FORGE Co.
142
151
135
FEET
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
8 TONS LOW SIDE OPEN Nº 142
8 TONS CATTLE TRUCK Nº 151
8 TONS COVERED VAN Nº 135
RETUSTIN 12/44

differences between the two lines are that the former uses all British stock and equipment, whilst the latter favours American productions. The mineral line also uses a heavy rail normally used for standard gauge track. (Possibly it is this large section rail which has to do with the extra ½ in. in the gauge.)

Wagons

The wagons shown are part of the original stock built for the line when it was opened in 1904 and are all from the Leeds Forge Co. They are of very simple construction, having pressed steel underframes and bogies made under Fox's patent. In modelling these vehicles, it would probably be best to make the framing out of strip wood and the bogies from brass. I have modified the gauge to 2 ft. 4¼ in. to suit "OO" track and have made the wheels 1 ft. 6 in. diameter, so that standard "OO" disc wheels can be utilised. I think the drawings make most details clear, but I have drawn out an enlarged sketch of the combined buffer and coupling, as this appears to be a simple straightforward design which could easily be built up in 7-mm. scale. The actual coupling is a single casting, but I would suggest building it up out of brass bar, strip and rod, as shown. (The sketch, I think makes the proposed method of construction self-explanatory, all the parts being soldered together.) The coupling is shown provided with two coil springs, but these could easily be omitted to simplify matters and the fitting made "solid." If sharp curves are to be used it would be wisest to try and keep all the vehicles of roughly the same length (i.e. do not use both four- and eight-wheeled stock together), otherwise the coupling will want to take a wider sweep on a long vehicle rounding a curve than it would do on a short one, and where such vehicles are coupled together derailments are liable to occur from this cause. This could be avoided by making the coupling swivel, as is usual on simple single-link couplings now used on models, but some form of side springs would have to be provided to bring the coupling to its centre line, otherwise there would be no guarantee of two couplings meeting during shunting operations. Such springs would make the fitting far too complicated and hardly worth the trouble.

The vehicles in question are fitted with hand brakes worked by a wheel at either end, the brakesman being able to stand on a step provided for that purpose. All vehicles on this line are fitted with vacuum brake gear also.

The woodwork of the open wagons is not painted, the boards being either left bare or sometimes given a coat of creosote. The covered vehicles are painted a medium grey. All wagons have black framing and ironwork and white lettering.

Mixed Trains

Most of the trains on this line are "mixed," i.e.. they carry both passengers and goods, but they differ from British practice in that the goods wagons are always placed next to the engine to facilitate shunting *en route*, the vacuum brake, of course, applying to the whole of the train. In England on such mixed trains it is usual to have the passenger coaches at the front, then the wagons and a goods brake van at the rear, but this is because our goods wagons are of so much lighter construction than passenger vehicles and could not be safely worked in front of the coaches even if they were "piped" for the continuous brake. As both passenger and goods vehicles are roughly equal in weight on this line the trouble does not arise.

On ordinary goods trains, sometimes a composite passenger brake vehicle is run in the rear, and occasionally a goods brake van but more often than not the brake van is dispensed with entirely, which looks a little odd to British eyes. Another unusual feature is that tail lamps are never used on any trains, there being, in fact, no lamp irons.

More Wanted

It would be interesting to hear from other readers what they think of this type of line as a subject for modelling. If there is a sufficient following, possibly others could be prevailed upon to produce some drawings and notes of light railway stock. Most of the British lines have figured fairly frequently in the railway periodicals, but accurate drawings of the rolling stock have been singularly lacking in the past.

did once try painting them, but the experiment wasn't a success, and I preferred to let them become brown with rust, which gives them a realistic appearance, and only occasionally passed a piece of emery paper over the running surface.

Now, in describing the layout, it will be simplest if we imagine ourselves about to take journey over the line by an express for the North. On arriving at King's Cross, we find the station in an incomplete condition, as no permanent offices are yet built. The platforms are laid, however, and a temporary roof covers the main platform roads. Our train, consisting of five coaches, is ready

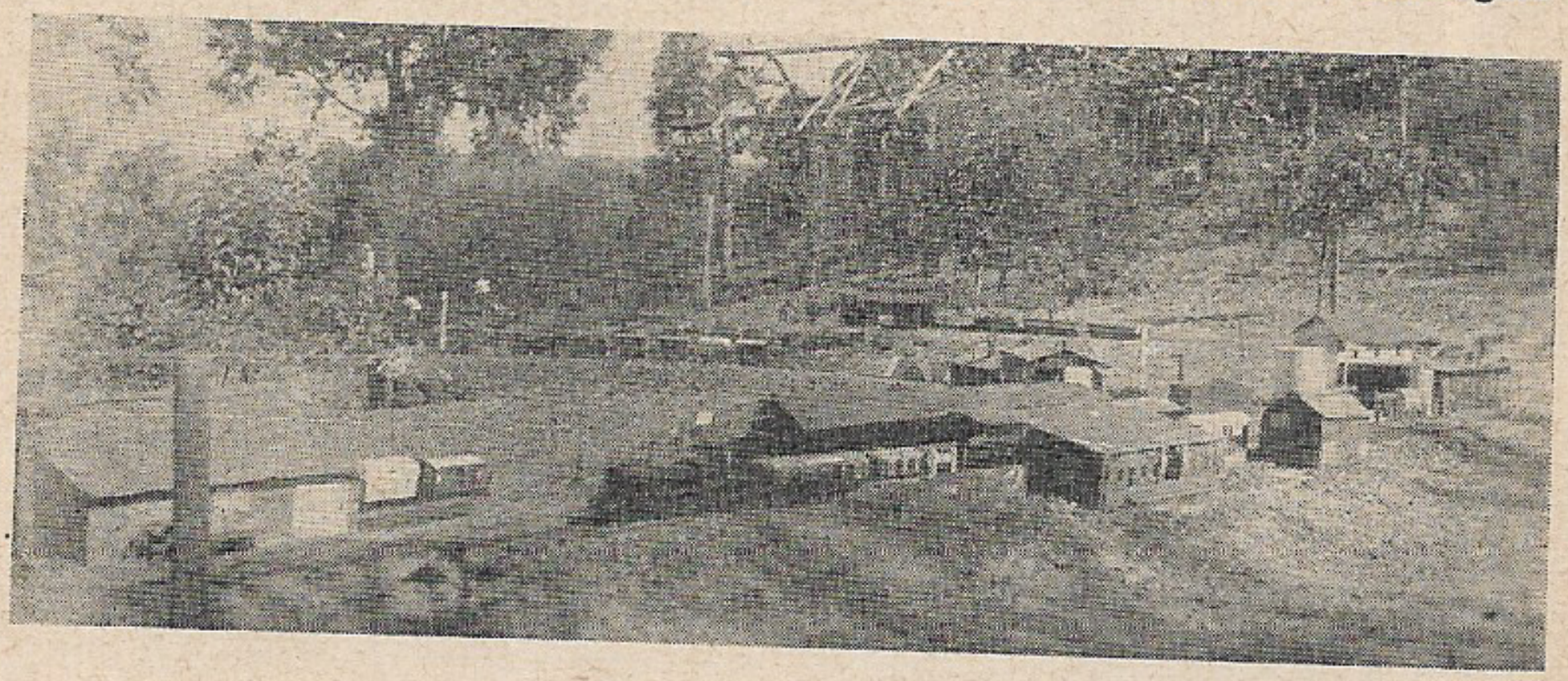


Fig. 4. Doncaster, from the South

for departure in platform 3. It is headed by a "K" class 2-6-0 locomotive, No. 33, with a 4-4-0 of the "Shire" class, No. 236 "Lancashire," as pilot to Doncaster. The coaches in order from the front are a 1st-3rd coach for Harrogate, a second 1st-3rd coach, a two-coach articulated saloon set, one coach of which is a diner, and a 3rd brake composite coach, all in L.N.E.R. colours. We will probably have time to watch a three-coach local from Doncaster, in the crimson livery of the old N.E.R., and headed by a 4-4-2T tank locomotive, arrive in platform 4, before our train commences the stiff ascent from King's Cross.

As we move off, we notice on our right the goods yards, while on our left the direct line to Harrogate swings sharply round and disappears into a deep rock cutting, spanned by a road bridge. Looking to the right again, we have just time to observe the locomotive yards, with two-road shed, turntable and scrap heap with derelict locomotives, before we change our direction slightly to the right and plunge into a tunnel. After negotiating the 8-ft. straight length of this, we emerge, through a short cutting, on to a high embankment (see photograph, Fig. 2), where we swing through a full right-angle to the left, and, shutting off steam, coast gently down the incline into Doncaster, passing on the left the goods yards and shed. We draw up in platform 2, opposite which, in platform 3, waits a train for Harrogate to which our Harrogate through coach is attached.

Doncaster has three platforms, giving four platform edges, 1 and 2 being main lines, and 3 the Harrogate line, 4 being used for suburban traffic. Figs. 3 and 4 depict the main aspects of Doncaster.

Our pilot locomotive also leaves us here, and after a short pause we draw out of the station, past the locomotive yards, with a single-road shed and a fairly large manual coaling stage, and the main line to Harrogate on the "down" side. This line curves gently to the left, passing a power station on the "up" side, and, climbing steeply all the way, reaches Harrogate after a run of 24 ft., where it is again parallel to Doncaster. Just before the station is a 6-ft. long two-span cantilever bridge, constructed of Meccano, spanning a deep depression which—some-

times—contains water, but more usually dead gum leaves and pine needles, the curse of the line. The station itself, which is built up to 1 ft. above ground level on an earth embankment faced with stones, has one 6-ft. long island platform with offices, etc., a goods siding and a turntable. It is illustrated in Fig. 5. The direct line to King's Cross continues on through the deep cutting already mentioned.

We are now passing over a favourite "galloping ground," dead level, and straight for about 30 ft., and our locomotive makes the most of it. We flash past the extensive depot of the B.I. Oil Co. on the "down" side, and soon commence to climb again as we approach the mountainous country of the Border. We pass quarries and coal mines on both sides of the line and swing to the left through 45 deg., flash under a road bridge over a short straight stretch, swing through a further 45 deg. to the left and approach Edinburgh, passing on the "up" side the locomotive yard and turntable, and on the "down" several goods sidings. Shutting off steam, we clatter over the points and draw up alongside the platform of Waverley station.

This station has the one platform 7 ft. 6 in. long, with an imposing hall and turreted booking office at the rear, and is covered for half its length by an "umbrella" roof. It is shown in Fig. 6.

Our journey is over, after a run of approximately 100 ft.

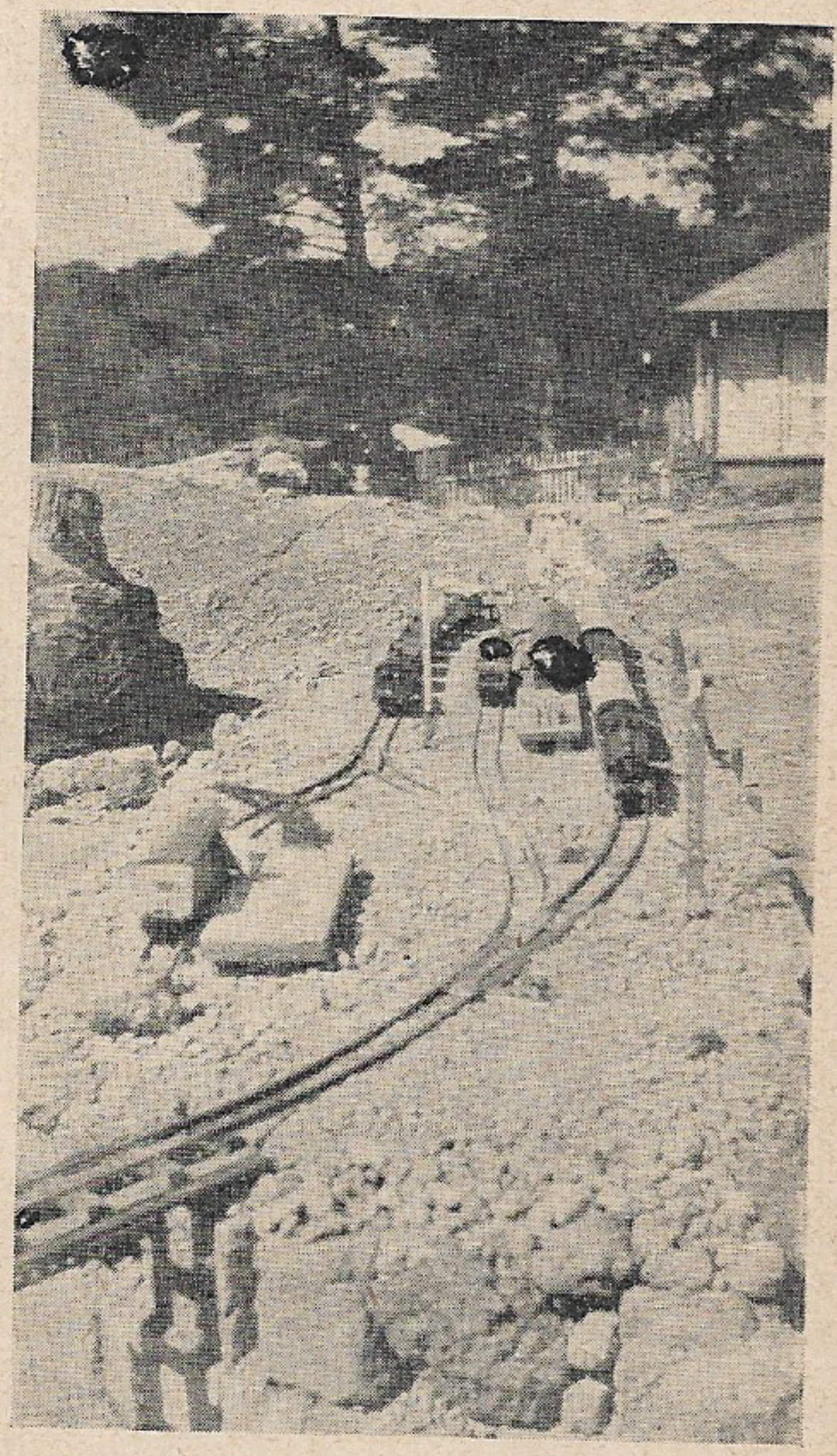


Fig. 5. View in which part of King's Cross can be seen in the background

Locomotives

The locomotive stock was really inadequate to work the system efficiently, there being a serious lack of large six-coupled express locomotives and powerful goods locomotives. The total stud, all clockwork except No. 33, which was steam, comprised :—

No. 33, 2-6-0 (Bassett-Lowke).
No. 696, 4-4-2 (originally Hornby, rebuilt as old N.E.R. class "R").
No. 234, 4-4-0, "Yorkshire" (Hornby).
No. 236, 4-4-0, "Lancashire" (Hornby).
No. 1927, 4-4-0, "Duke of York" (Bassett-Lowke).
No. 2711, 4-4-0 (Hornby).
No. 2712, 4-4-0 (Hornby).
No. 6, 4-4-2T (Hornby).
No. 444, 4-4-2T (originally Hornby 4-4-4T).
No. 2710, 0-4-0 (Hornby).
No. 112, 0-4-0T (Bassett-Lowke).
No. 8108, 0-4-0T (Hornby).

All these locomotives were repainted

A MODEL L.N.E.R. LINE IN AUSTRALIA

By H. ELLIVEN

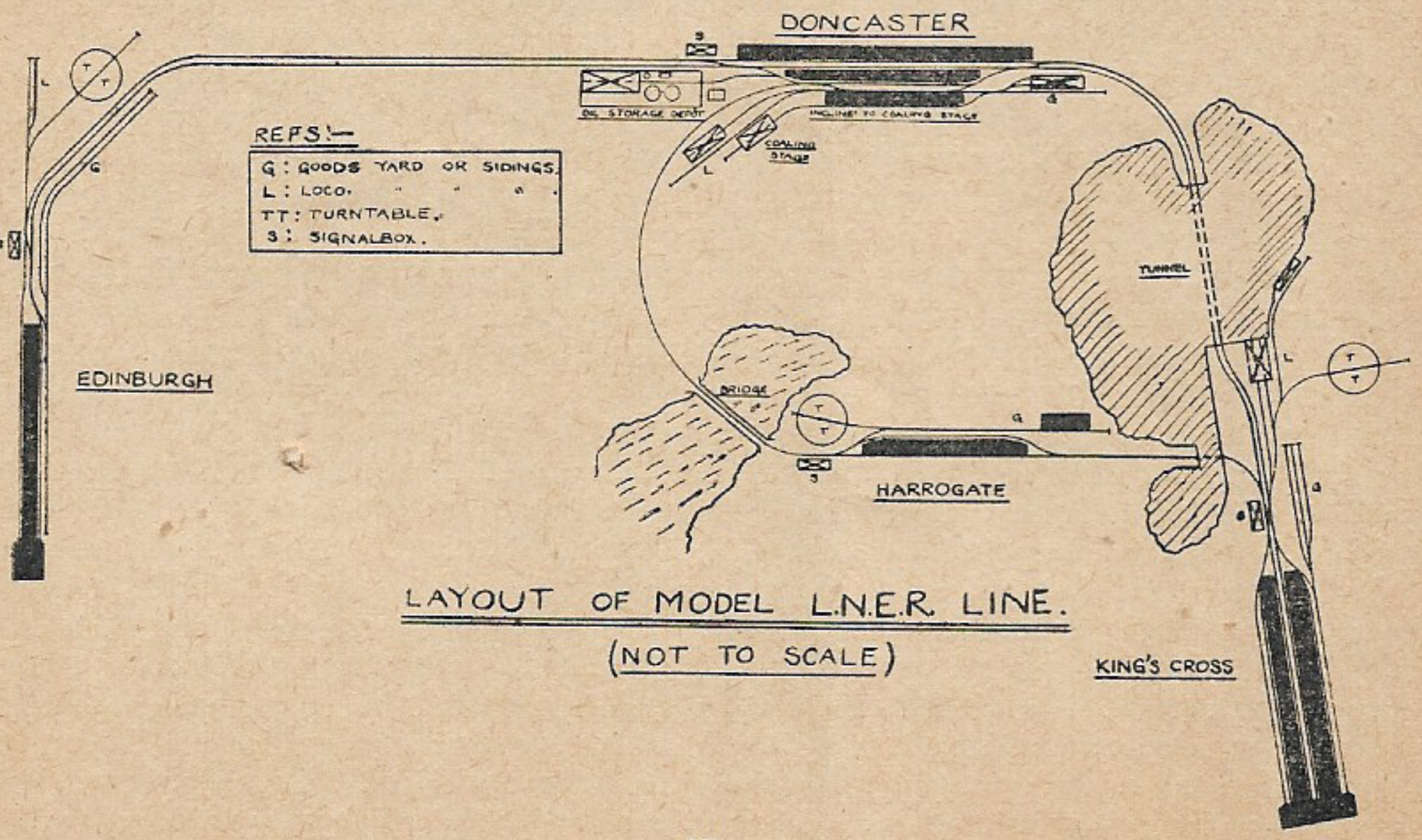
THE general purpose of this line, the layout of which is shown in Fig. 1, was to have a system embodying as far as possible L.N.E.R. practice, and with the stations in their correct positions in relation to the line. The only incorrect feature in this connection was the line joining Harrogate to King's Cross direct, but this was put in to obtain an "out-and-back" layout for convenience in working with only one operator.

As in the prototype, King's Cross was the main London terminus, Doncaster was an important railway centre and junction, Harrogate was a popular health resort, and Edinburgh another important terminus.

On the model, however, the line between King's Cross and Doncaster was regarded as the suburban section, and the Harrogate line as a comparatively unimportant branch. Harrogate was really a country station, while Doncaster was the centre of the industrial area.

As will be seen from the plan of the layout, the track was double from King's Cross to Edinburgh, the Harrogate line being single. The minimum radius of curves on the main line was 6 ft., but, unfortunately, many of the points and crossovers were less than this, and the locomotive yard at King's Cross, having only Hornby tinplate 2-ft. radius points, could not be entered by six-coupled locomotives at all, though they could just manage to run on to the turntable.

The actual main line from King's Cross to Doncaster was Millbro' steel on oak sleepers, laid on a brick foundation. This is beautiful track, but, alas! now our tariff has been increased the price has become prohibitive. Fifteen feet of the line from Doncaster to Harrogate was flat-bottomed brass rail spiked to creosoted sleepers, laid, in common with the rest of the main line, on lengths of 3 in. × 2 in. jarrah. The rest of the track, with the exception of the main line platforms at King's Cross and Doncaster, which were in Bassett-Lowke's old-type permanent way, was Hornby tinplate, since this was the only type obtainable locally, and combines cheapness with durability and convenience. Its main disadvantage—apart from appearance, which is negligible on an over-ballasted outdoor track—was in the sharpness of curves, for, though the actual curved rails could



LAYOUT OF MODEL L.N.E.R. LINE.
(NOT TO SCALE)

Fig. 1

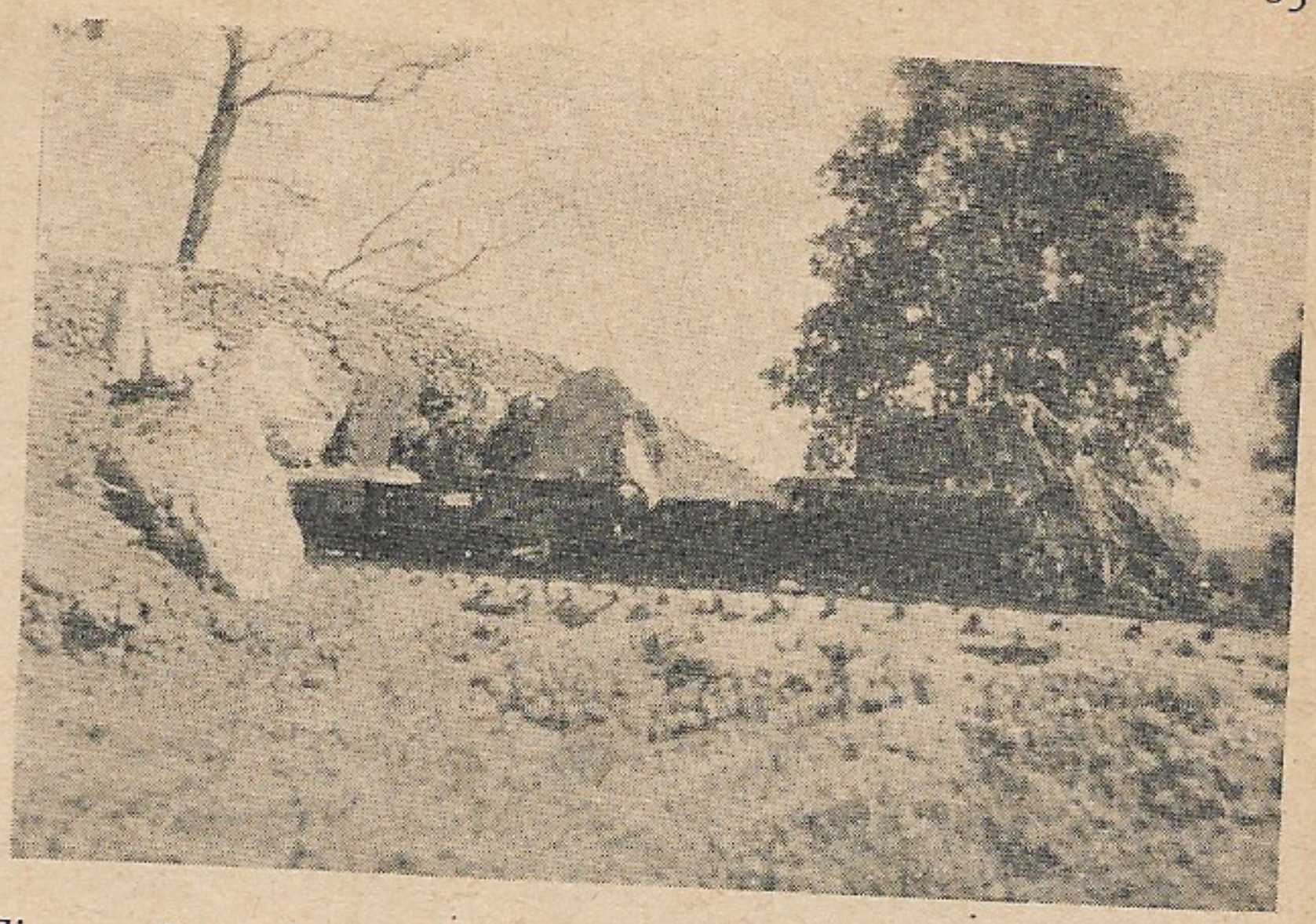


Fig. 2. Double-headed train, with 4-4-0 and 4-4-2 locomotives

with care be relaid with a greater radius, the points could not be so altered, and so all main line points had to be homemade, from tinplate rail spiked to wooden sleepers.

This mixture of tracks, as can readily be imagined, caused a great deal of trouble at the joints, but was unavoidable, as much was obtained second-hand to save expense (I was attending the University at the time, and University students are notoriously poor over here !) and I had to take what I could get.

With regard to the durability of the different types of track under our weather conditions of heavy rain and frosts in winter and shade temperatures of over 100° F. in summer, the Hornby rail proved itself superior, for all sleepers of the scale track, except the oak, crack and split in one season, in spite of being heavily creosoted, and the oak ones fall easy prey to the voracious white ant. The tin rail is immune from all these things, and I had in the main line Hornby rails which had been exposed to all weathers for four years, and which were still in excellent running order, although they had never been treated with any preservative. I

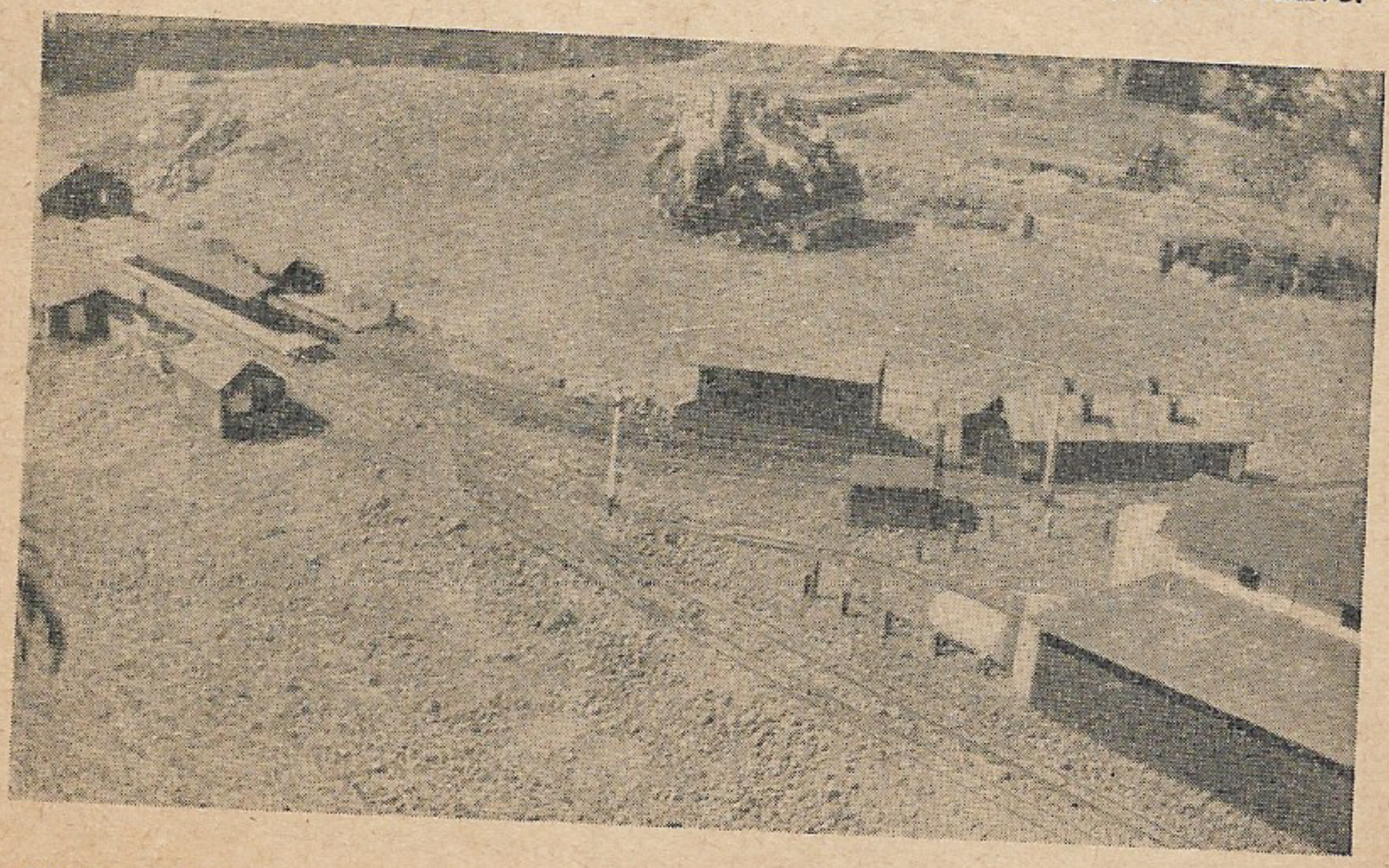


Fig. 3. Doncaster, from the North. Rolling-stock removed to show track

did once try painting them, but the experiment wasn't a success, and I preferred to let them become brown with rust, which gives them a realistic appearance, and only occasionally passed a piece of emery paper over the running surface.

Now, in describing the layout, it will be simplest if we imagine ourselves about to take journey over the line by an express for the North. On arriving at King's Cross, we find the station in an incomplete condition, as no permanent offices are yet built. The platforms are laid, however, and a temporary roof covers the main platform roads. Our train, consisting of five coaches, is ready

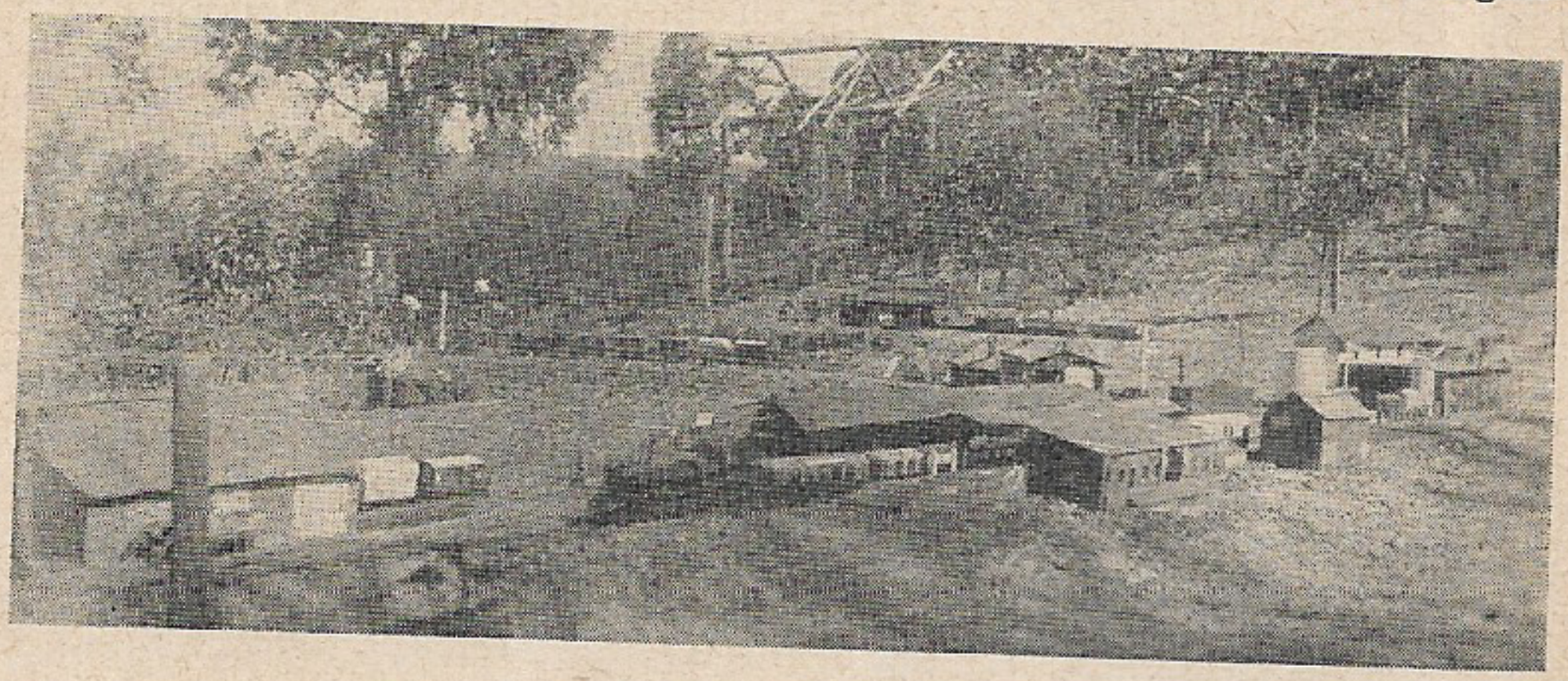


Fig. 4. Doncaster, from the South

for departure in platform 3. It is headed by a "K" class 2-6-0 locomotive, No. 33, with a 4-4-0 of the "Shire" class, No. 236 "Lancashire," as pilot to Doncaster. The coaches in order from the front are a 1st-3rd coach for Harrogate, a second 1st-3rd coach, a two-coach articulated saloon set, one coach of which is a diner, and a 3rd brake composite coach, all in L.N.E.R. colours. We will probably have time to watch a three-coach local from Doncaster, in the crimson livery of the old N.E.R., and headed by a 4-4-2T tank locomotive, arrive in platform 4, before our train commences the stiff ascent from King's Cross.

As we move off, we notice on our right the goods yards, while on our left the direct line to Harrogate swings sharply round and disappears into a deep rock cutting, spanned by a road bridge. Looking to the right again, we have just time to observe the locomotive yards, with two-road shed, turntable and scrap heap with derelict locomotives, before we change our direction slightly to the right and plunge into a tunnel. After negotiating the 8-ft. straight length of this, we emerge, through a short cutting, on to a high embankment (see photograph, Fig. 2), where we swing through a full right-angle to the left, and, shutting off steam, coast gently down the incline into Doncaster, passing on the left the goods yards and shed. We draw up in platform 2, opposite which, in platform 3, waits a train for Harrogate to which our Harrogate through coach is attached.

Doncaster has three platforms, giving four platform edges, 1 and 2 being main lines, and 3 the Harrogate line, 4 being used for suburban traffic. Figs. 3 and 4 depict the main aspects of Doncaster.

Our pilot locomotive also leaves us here, and after a short pause we draw out of the station, past the locomotive yards, with a single-road shed and a fairly large manual coaling stage, and the main line to Harrogate on the "down" side. This line curves gently to the left, passing a power station on the "up" side, and, climbing steeply all the way, reaches Harrogate after a run of 24 ft., where it is again parallel to Doncaster. Just before the station is a 6-ft. long two-span cantilever bridge, constructed of Meccano, spanning a deep depression which—some-

times—contains water, but more usually dead gum leaves and pine needles, the curse of the line. The station itself, which is built up to 1 ft. above ground level on an earth embankment faced with stones, has one 6-ft. long island platform with offices, etc., a goods siding and a turntable. It is illustrated in Fig. 5. The direct line to King's Cross continues on through the deep cutting already mentioned.

We are now passing over a favourite "galloping ground," dead level, and straight for about 30 ft., and our locomotive makes the most of it. We flash past the extensive depot of the B.I. Oil Co. on the "down" side, and soon commence to climb again as we approach the mountainous country of the Border. We pass quarries and coal mines on both sides of the line and swing to the left through 45 deg., flash under a road bridge over a short straight stretch, swing through a further 45 deg. to the left and approach Edinburgh, passing on the "up" side the locomotive yard and turntable, and on the "down" several goods sidings. Shutting off steam, we clatter over the points and draw up alongside the platform of Waverley station.

This station has the one platform 7 ft. 6 in. long, with an imposing hall and turreted booking office at the rear, and is covered for half its length by an "umbrella" roof. It is shown in Fig. 6.

Our journey is over, after a run of approximately 100 ft.

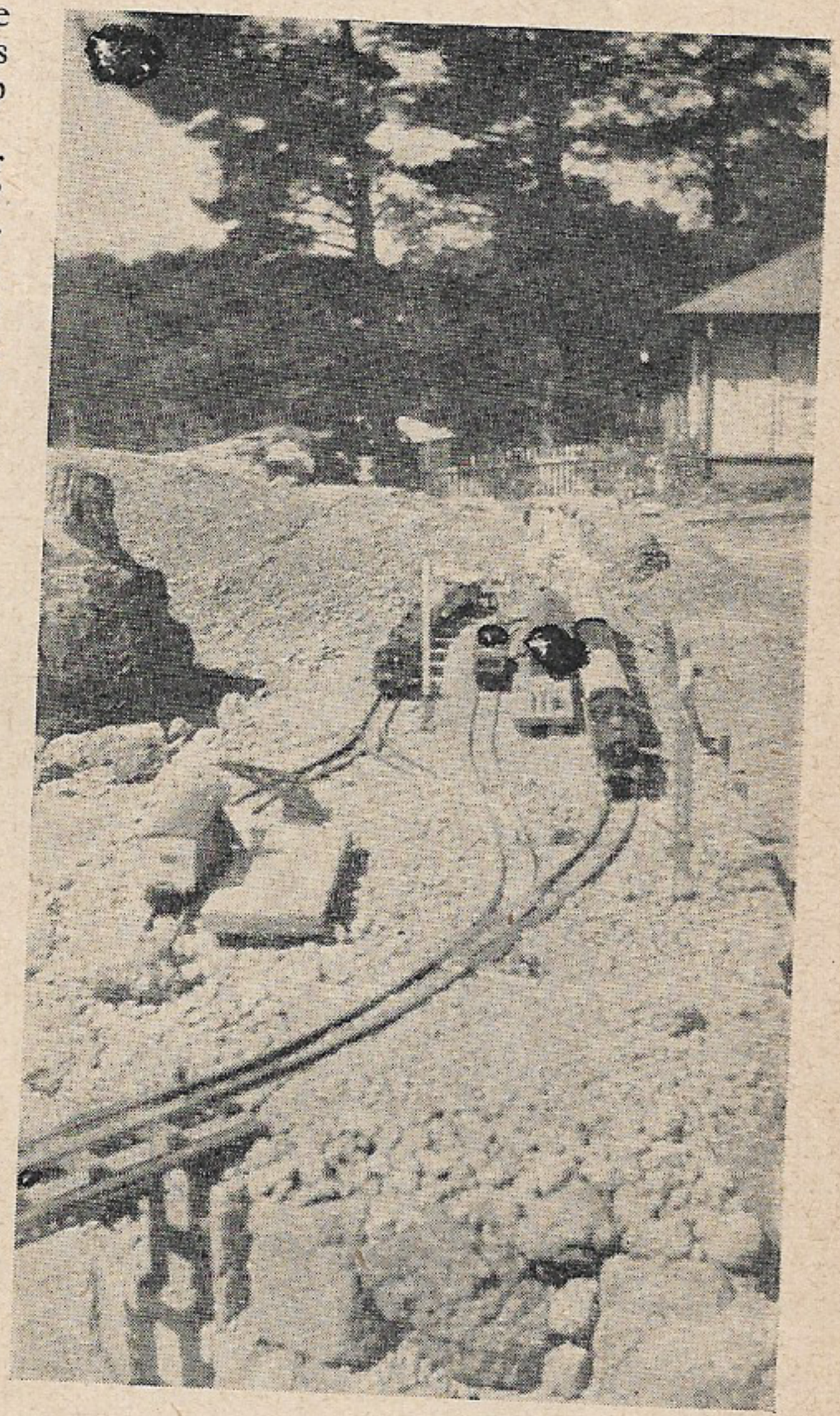


Fig. 5. View in which part of King's Cross can be seen in the background

Locomotives

The locomotive stock was really inadequate to work the system efficiently, there being a serious lack of large six-coupled express locomotives and powerful goods locomotives. The total stud, all clockwork except No. 33, which was steam, comprised :—

No. 33, 2-6-0 (Bassett-Lowke).
No. 696, 4-4-2 (originally Hornby, rebuilt as old N.E.R. class "R").
No. 234, 4-4-0, "Yorkshire" (Hornby).
No. 236, 4-4-0, "Lancashire" (Hornby).
No. 1927, 4-4-0, "Duke of York" (Bassett-Lowke).
No. 2711, 4-4-0 (Hornby).
No. 2712, 4-4-0 (Hornby).
No. 6, 4-4-2T (Hornby).
No. 444, 4-4-2T (originally Hornby 4-4-4T).
No. 2710, 0-4-0 (Hornby).
No. 112, 0-4-0T (Bassett-Lowke).
No. 8108, 0-4-0T (Hornby).

All these locomotives were repainted

in L.N.E.R. livery, and modified where necessary to conform with the standard of the line, having full tender and bunker fittings, etc., and all had full sets of lamp brackets, as correct head codes were always used.

With regard to power, the steam locomotive never performed really satisfactorily. The most powerful locomotive on the line was No. 112, which would easily take four coaches up the steeply-graded Harrogate line with half a spring (the spring broke, and was mended in a shortened form, as a new one was unobtainable locally. This locomotive is still in my possession, and is now about 21 years old.

The next in order of power were Nos. 6, 234, 236 and 696, which had the large-type Hornby mechanism. These were far and away more powerful than any other locomotive (except, of course, No. 112) I have ever had running on the line, including three types of steam locomotive and the Bassett-Lowke " Duke of York." This last-mentioned was very weak, and barely hauled three coaches.

No. 2711, purchased in 1922, and since subjected to every sort of rough handling, was still capable of hauling four tinplate coaches non-stop from King's Cross to Edinburgh, and never had to have any repairs in the whole of her existence.

Passenger Stock

This also was hopelessly inadequate for the needs of the line, being mostly purchased second-hand. The coaches were as follows :—

3-coach L.M.C. litho. N.E.R. set (2 coaches and van).
3-coach Marklin tinplate L.N.W.R. set (2 coaches and van).
2-coach tinplate L.N.E.R. set (originally Hornby Metropolitan).
2-coach tinplate articulated L.N.E.R. set (originally Hornby old-type Pullmans).
1 L.N.E.R. 3rd-brake composite corridor coach (home-made).
1 1st class Pullman composite coach, " Alberta " (Hornby).
3 3rd class Pullman coaches (Hornby).

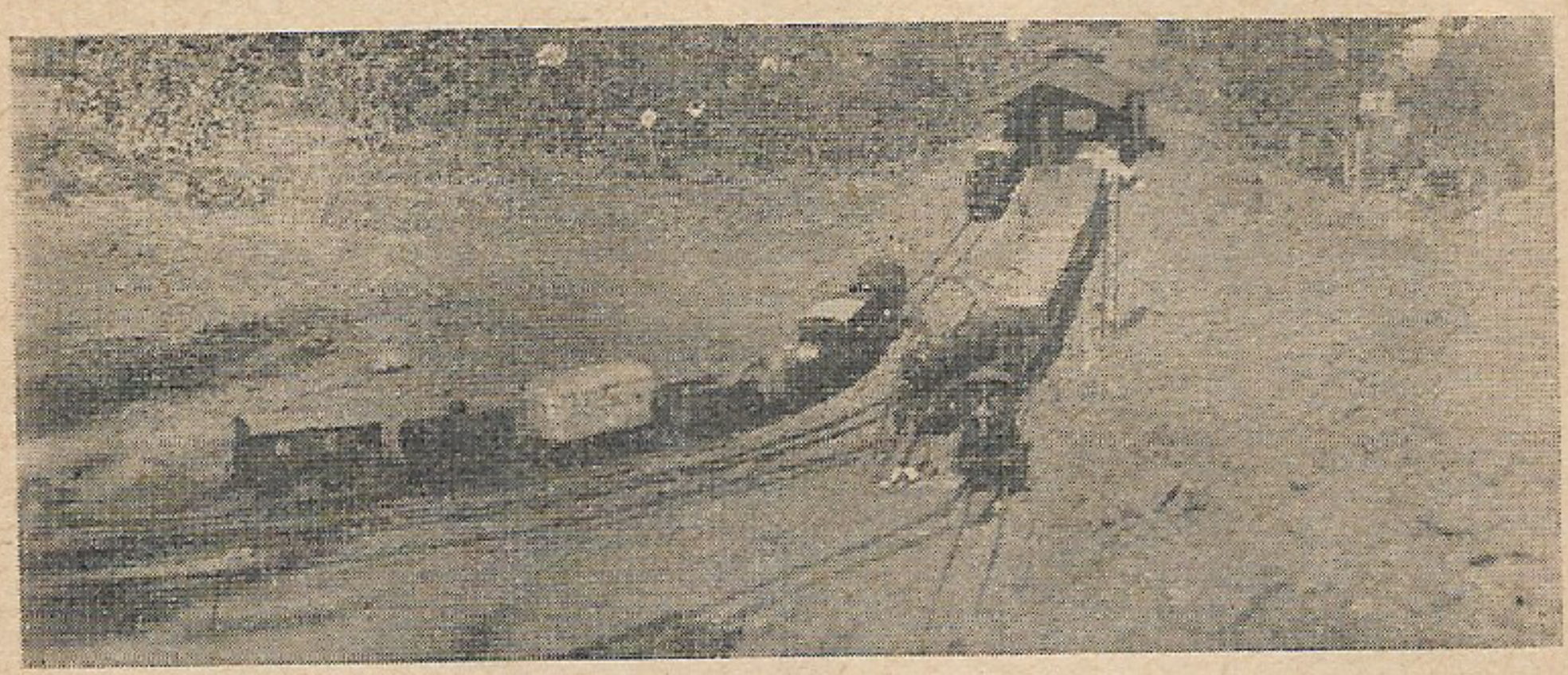


Fig. 6. Edinburgh, from the South

Goods Stock

This comprised some 26 vehicles of all types, including a home-made Damo " A " and " Mica ' B ' " (from drawings by " Sparks ").

Signalling System

This was of the most primitive type, simply consisting of a starting signal at each station, controlled from the next, combined with simple electric calling-up lights. Thus, when King's Cross had a train ready to depart for Doncaster, the operator at the former station closed a switch which controlled a light in Doncaster box. When the operator at Doncaster was able to receive the train, he pulled off the starter at King's Cross, controlled by a lever in his box. A simple method of locking prevented the signals at each end of the single-track section from both being " off " at the same time.

Conclusion

The line was dismantled and sold upon my departure from the state, in 1932, and since then no opportunity of recommencing operations has presented itself.

In conclusion, I would again mention that, while the system described is admittedly a poor effort compared with the magnificent layouts described from time to time in THE MODEL RAILWAY NEWS, yet, before being too scathing, critics should take into consideration the many difficulties under which we laboured, the distance from sources of supply, and the financial conditions being by no means the least of these.

One word more : I should like to add my voice to the general strain of appreciation of the tremendous assistance and encouragement given by THE MODEL RAILWAY NEWS to members of the hobby, and especially to those, who, like ourselves, are far from the heart of things.

SPRING DRAW-GEAR

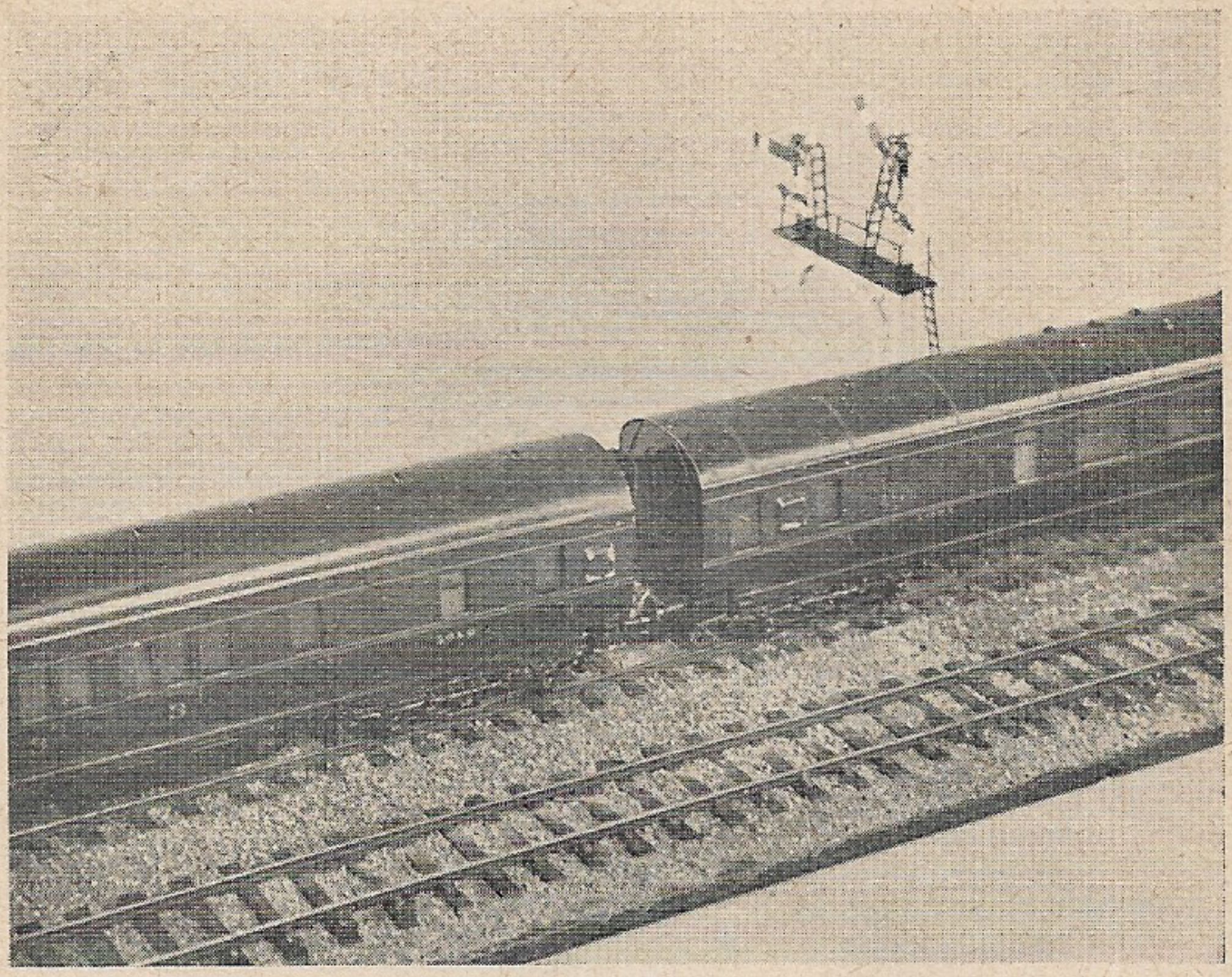
By G. W. M. LUSH

I HAVE always felt that the couplings commonly used in 4-mm. scale completely spoil many otherwise splendid layouts. When one analyses the advantages and snags of various types, it becomes clear that automatic uncoupling, which is the big feature claimed, is really not of much importance in actual practice. The reason for the general use of most kinds, including various forms of Lanal, seems to be chiefly that they can be managed easily by even a moderately clumsy human hand. You push two coaches together and they couple : slip a penknife underneath and they're apart. I can't help feeling that it is this, rather than the remote coupling and uncoupling possibilities of these devices that have established their popularity.

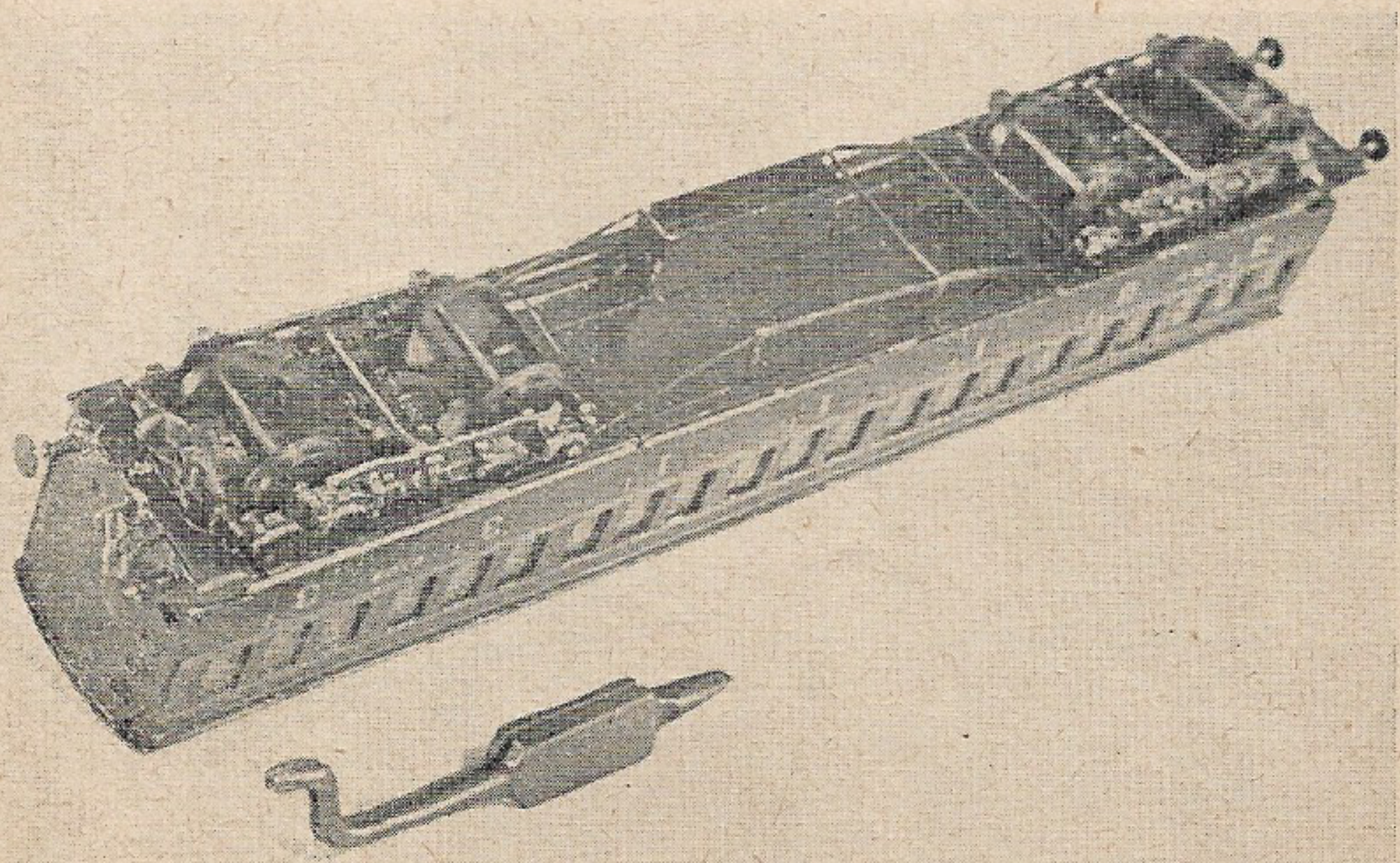
On the other hand, the staunchest advocate of the Lanal or similar types, would hardly claim that it adds to the appearance of a layout, or indeed that even a lay spectator could mistake it for a model of the real thing. It does, however, remove all risk of buffer-locking, and unless one is lucky enough to have a room the size of a football field, curves will be unavoidable of radius such that buffer-locking must be faced and dealt with.

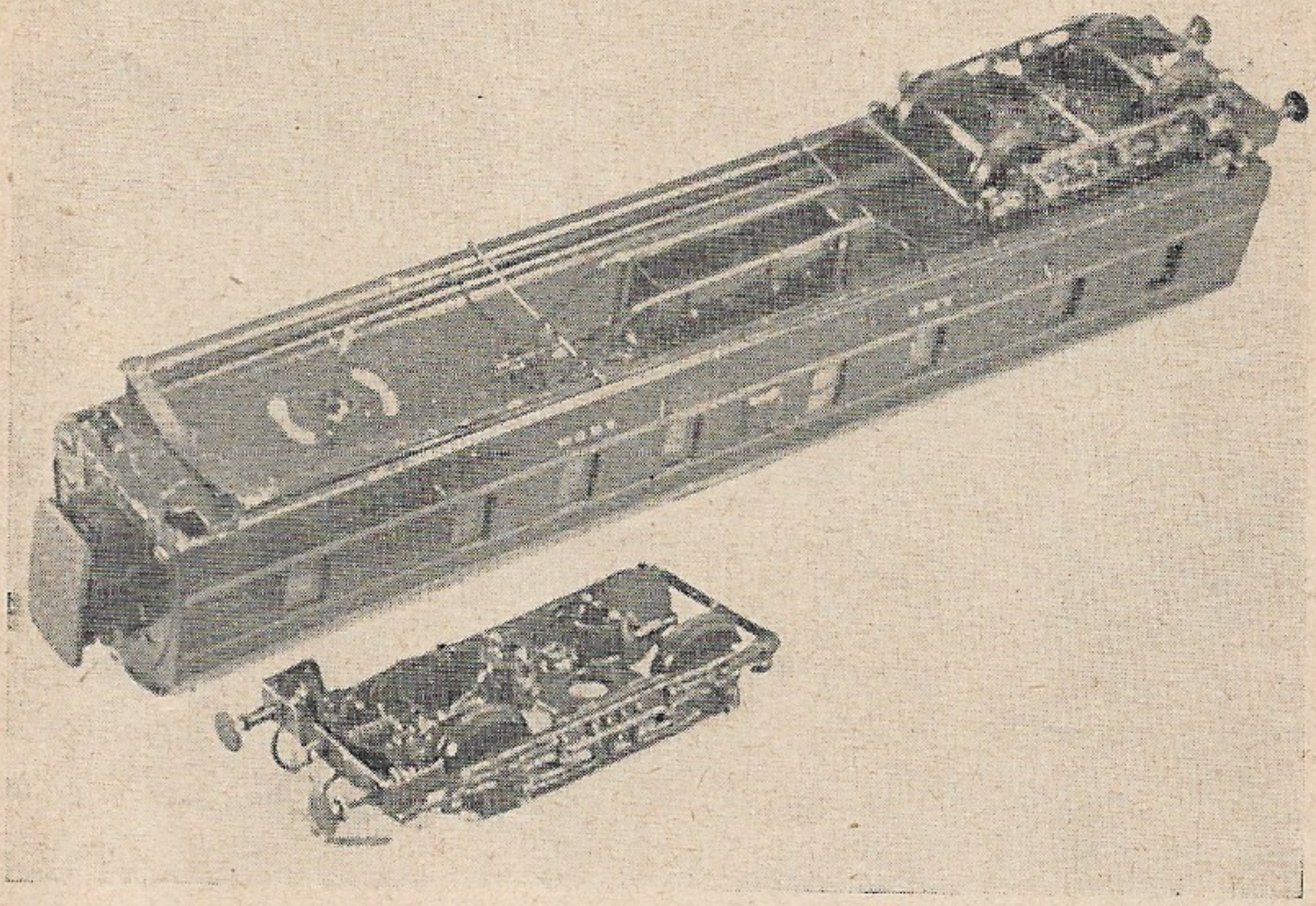
I approached the problem by deciding that I must have draw-gear that looks like the real thing—and preferably that works like the real thing, too. Things are easier in this respect now that ERG spring buffer and coupling parts can be had, and I fitted these to a number of four-wheel goods wagons with great success and excellent appearance. The first snag was the lack of a really good coupling tool. This, in itself, makes quite a story, and after a lot of experiment the very simple tool shown was the result. It is nothing but a pair of forceps with a double-cranked end, shaped and of a size such that it may be used to hold the third coupling link by reaching over the buffer (as in full-size practice with a shunter's pole). With this little gadget it is really simple and quick to couple the scale couplings even between vestibuled coaches with vacuum and steam-heat pipes.

The working of the spring buffers and couplings on short-wheelbase stock left nothing to be desired, so the next step was to tackle the bogie stock and locomotives. After much thought and experiment, I decided that the only real solution was to carry the buffer-beams, with draw-gear, on the bogies rather than the bodies, and the pictures show the result of this. For Exley coaches, I jigged up a standard buffer-beam assembly, in the form of a trough or box of tinplate to contain the ERG draw-gear, and cut a step in the end of the coach, where the fixed buffers used to be, to clear this box. The cutting o the coach is not as bad as it sounds. The first thing is to solder to the floor a strip across thc footsteps to hold them together after the " incision " has been made, and the next thing is to solder a small L-shaped bracket to the end of the floor and up inside the end to support the latter. Then a No. o hacksaw can be carefully used to slit the valances and running-boards at the corners and get the unwanted portions of these away

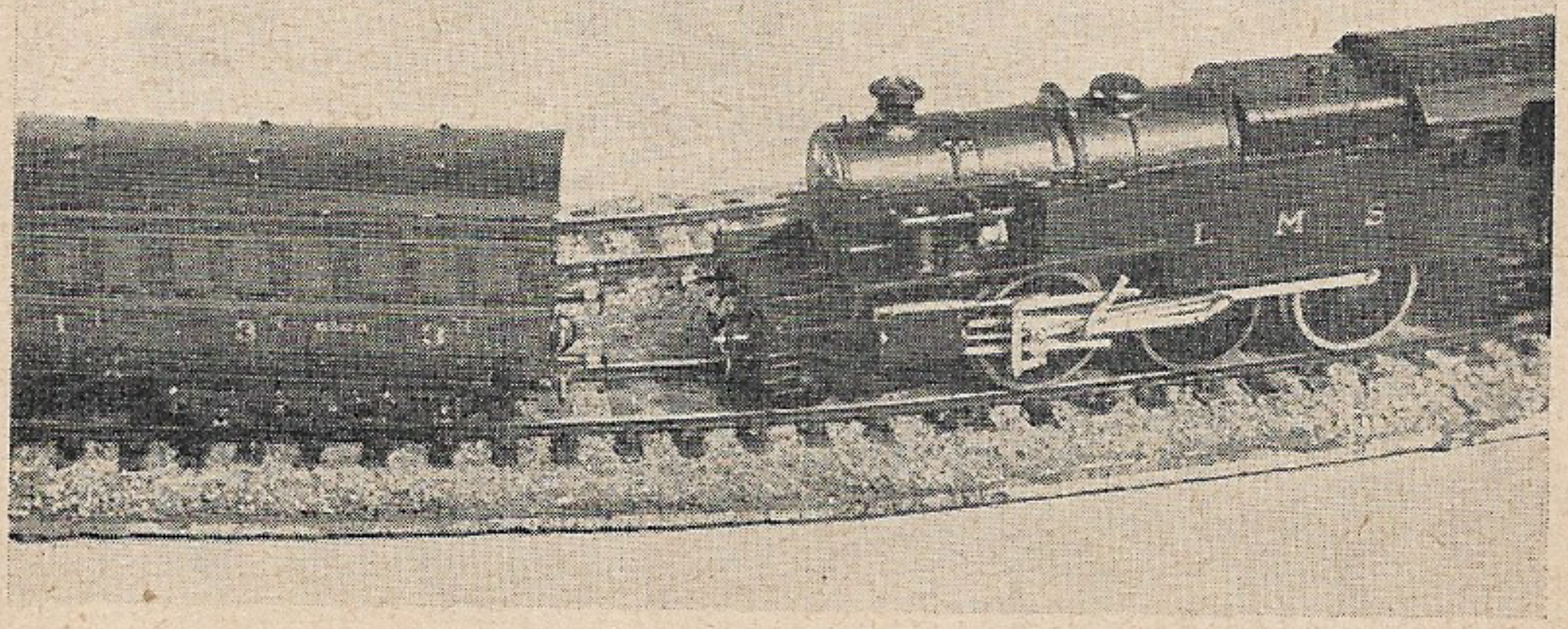


Above.—A pair of Exley coaches coupled
Below.—Exley coach with ERG draw-gear. Author's coupling tool in foreground

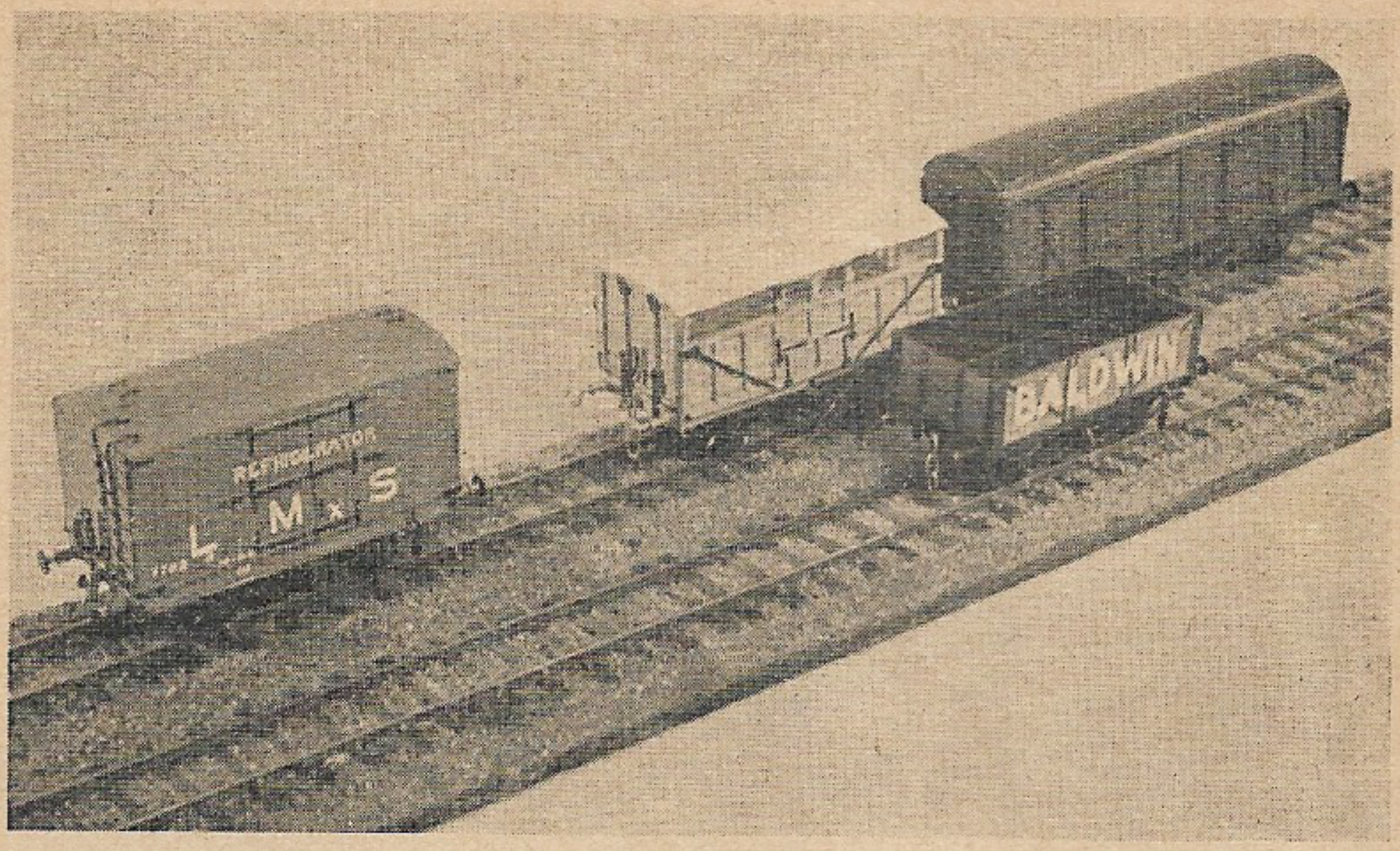




Coach with footstep and original buffer beams removed. Note the cross tie-bar and support bracket for coach end



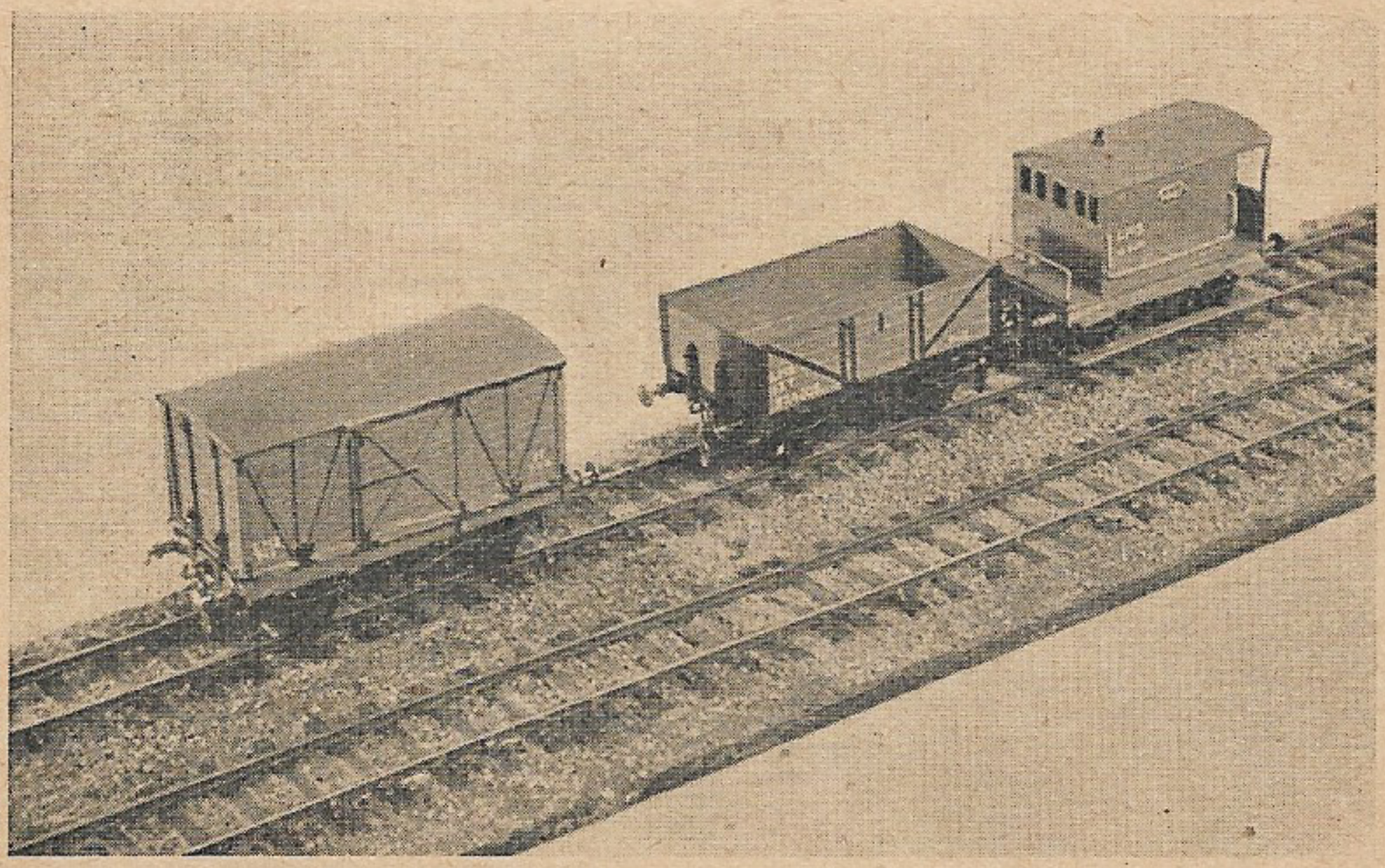
This view shows the amount of buffer-beam movement on a 4-ft. radius curve



4-wheeled goods stock with spring draw-gear

Finally, the lower or buffer-beam portion of the end of the coach can be snipped off. I have a pair of "rivet snips" which do this in one bite.

In converting Exley coaches thus, it should be noted that there are two types of end—one is die cast, and the other is built up of an inner layer of tinplate and an outer layer of sheet metal, apparently zinc. With this type the outer layer requires securing to the inner after snipping off the buffer-beam (the Exley dummy buffers hold the two together normally), and this means



More 4-wheeled goods stock with spring draw-gear

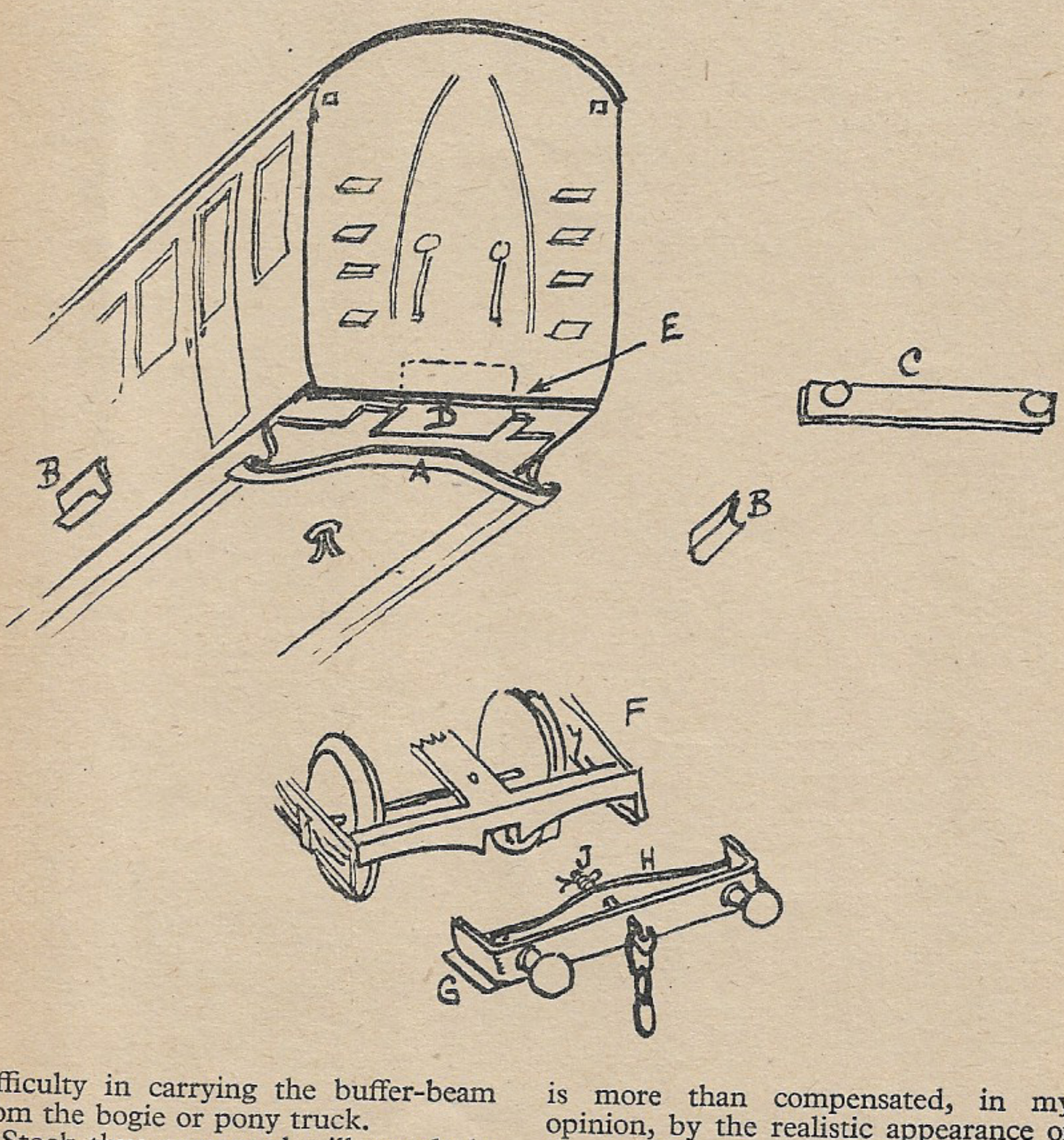
running a little solder between them along the lower edge with a hot iron and acid flux. After getting the hang of the job on one or two "experimental" coaches, I was able to convert a dozen on "mass production" lines, without any damage to paintwork, in less than two hours each.

Locomotives have to be dealt with individually, but there is seldom any difficulty in carrying the buffer-beam from the bogie or pony truck.

Stock thus converted will couple in any formation, eight-wheel, four-wheel, and six-wheel assorted, and negotiate any combination of bends and straights with all buffers in contact most realistically. The spring buffer-coupling combination has the same steadying effect as on the real thing.

It may be argued that the swinging buffer beams are as unsightly as the couplings they replace. The Trix Pacific locomotive has been widely criticised on this account. But a Trix on 11-in. curves is very different from an Exley coach on 3-ft. curves (or, in my case, 4-ft. minimum), and in practice the small movement is hardly noticeable even when you look for it; and this small departure from realism is more than compensated, in my opinion, by the realistic appearance of the buffers and couplings themselves, and the correct working of the draw-gear.

The diagram shows the method of modifying Exley coaches, and the pictures show the result on these and other vehicles, also the effect of swinging buffer beams on a 4-ft. curve, which is really nothing to worry about.



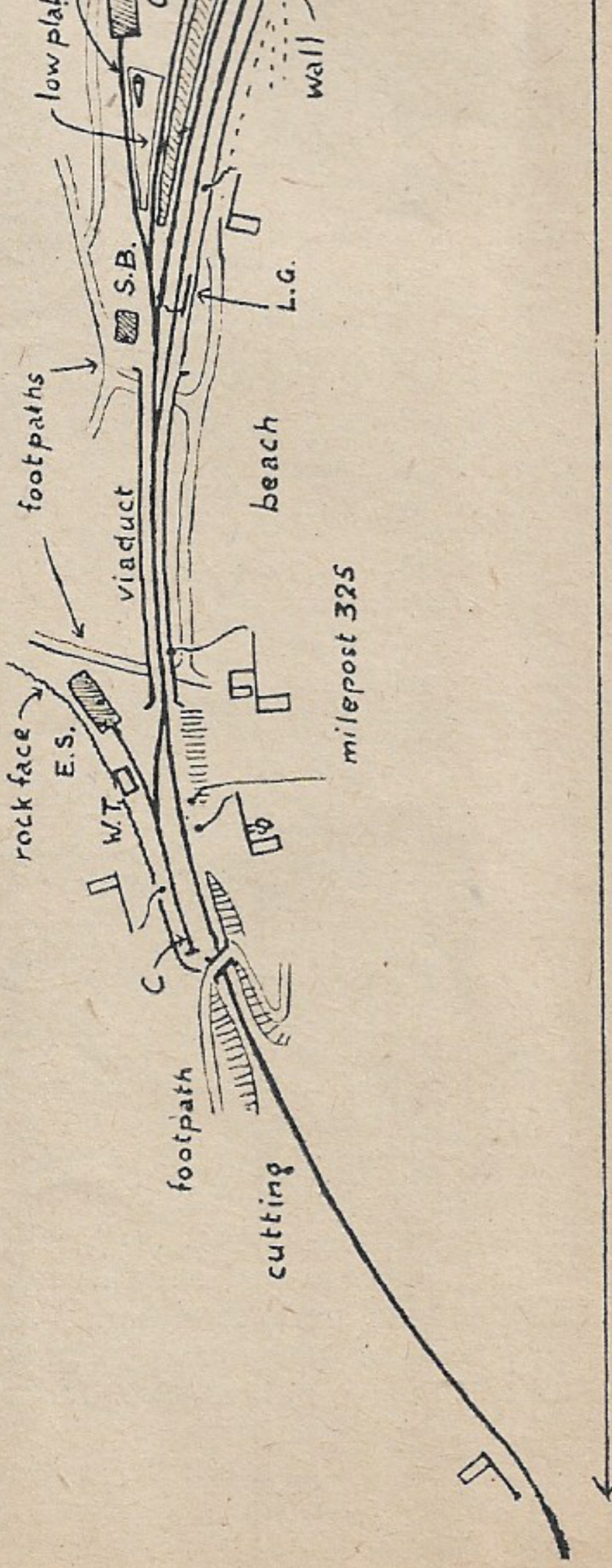
ANOTHER SMALL STATION

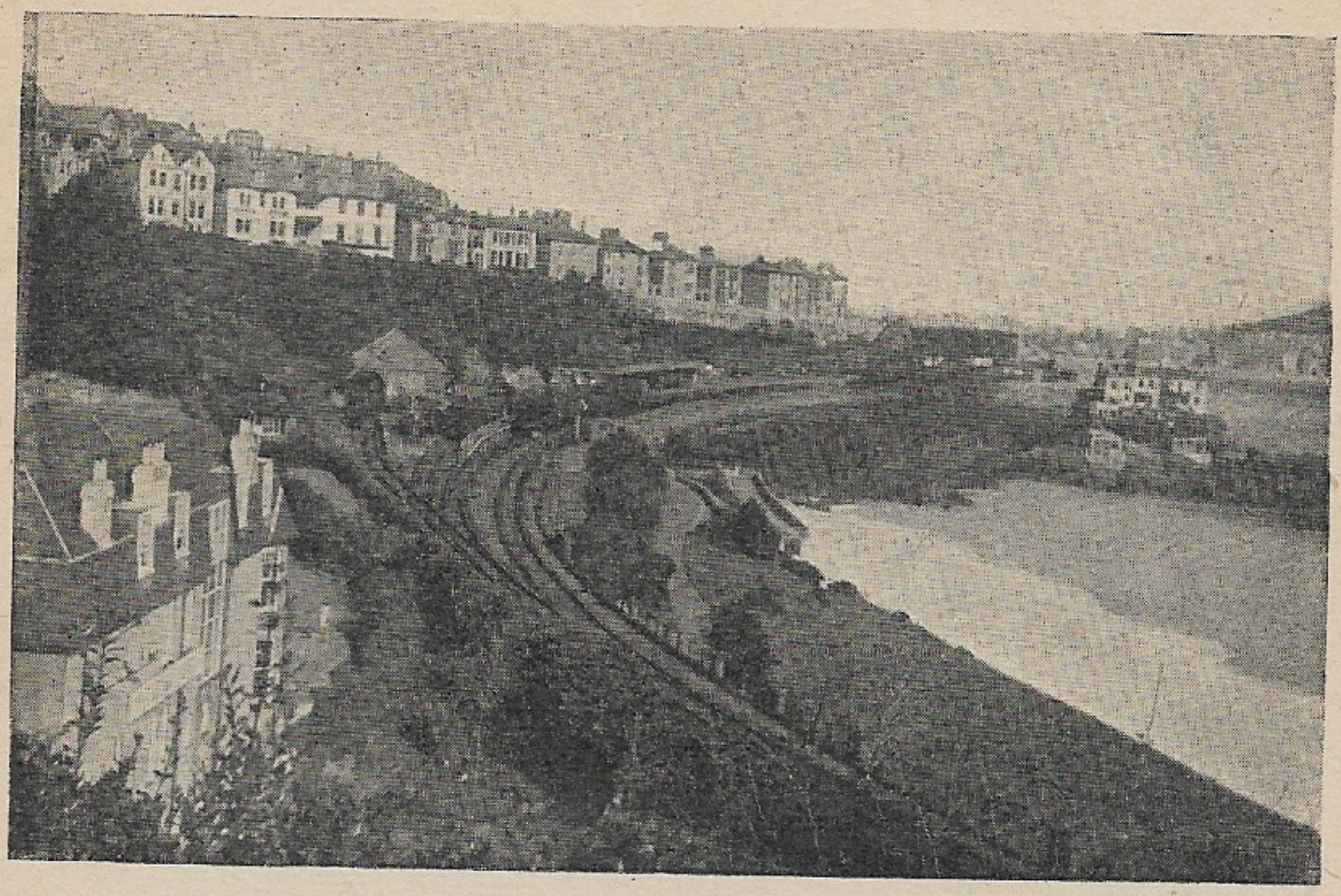
E. A. BEET

ST. IVES, G.W.R., is a small branch line terminus that could well serve as a prototype and gives opportunities for scenic and lineside features.

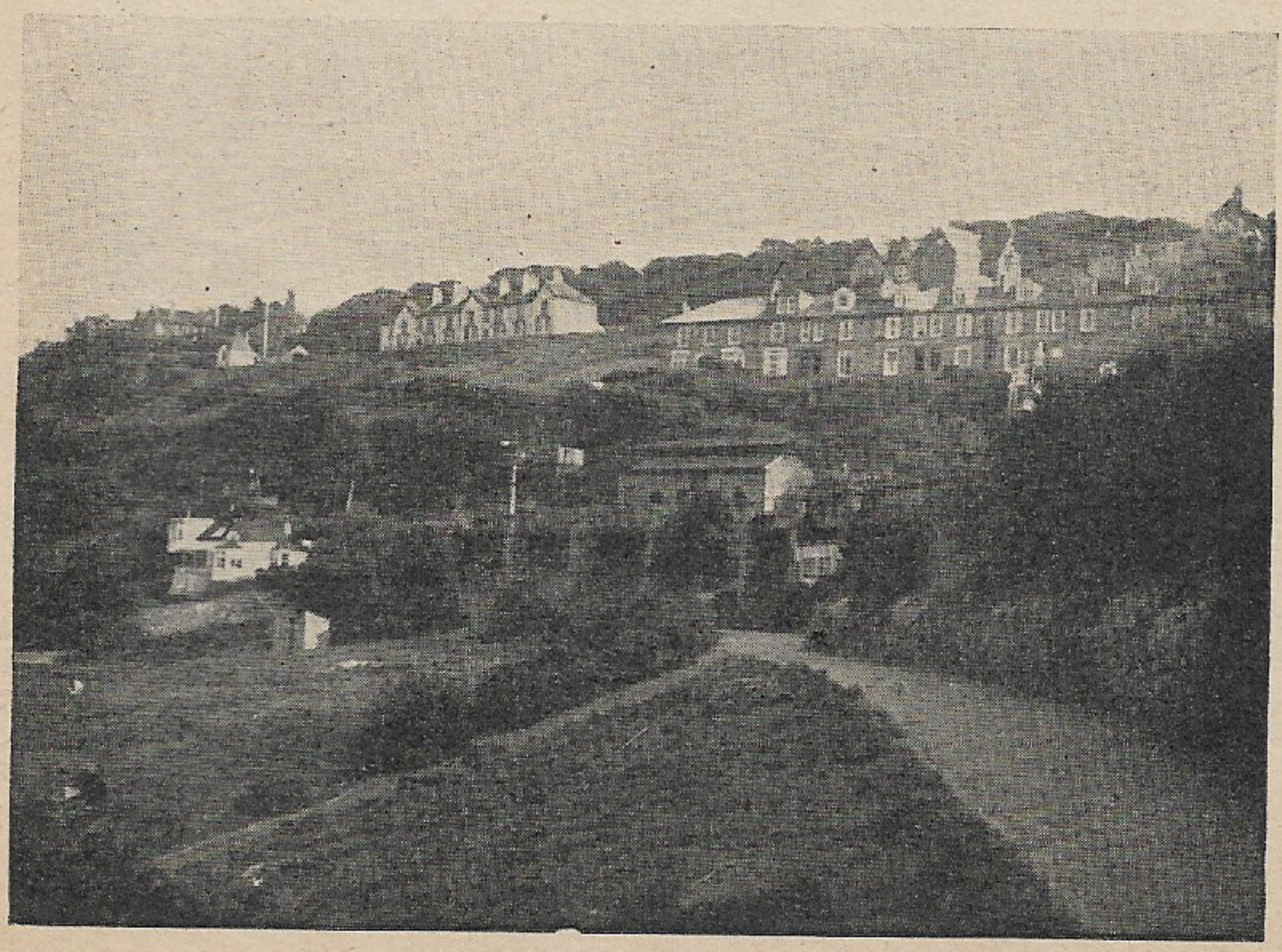
Little need be said about it; the illustrations can speak for themselves, though it is difficult to photograph as the lie of the land makes viewpoints either distant or below track level. The viaduct is about 9 ft. high to rail level at the station end, and reaches a maximum of about 15 ft. at the centre long span. There are buildings under spans 2, 3 and 4 from the station end.

At the time of my most recent visit the branch was worked by two small





2-6-2 tanks of the 45XX class, one of which was stabled at St. Ives. Passenger stock consisted of two two-coach non-corridor sets with luggage compartments at each end and one 1st class compartment in each coach; one set was stored at A on the plan. There is also a goods brake attached to this branch. Line B was in use as additional loading space for goods vehicles, and two locomotive coal wagons were usually standing at C.



FOR THE BOOKSHELF

Paddington to Seagood, by Gilbert Thomas (London : Chapman and Hall Ltd.). Price 7s. 6d.

Many readers of THE MODEL RAILWAY NEWS will recall the article published in our issue for July, 1941, in which Mr. Thomas's model railway as first described and illustrated under the title "From 'Paddington' to 'Seagood'." The same railway is the principal subject of this new book ; but the story is very much expanded until it covers the whole of Mr. Thomas's life experience as a railway enthusiast. Not that the experience itself differs greatly from that of any other enthusiast whose love for railways first manifests itself in very early life and persists throughout half a century or more ; but we cannot recall having previously seen so frank and charming a record of the loves, desires and realisations of the wishes of one over whom railways have cast their spell. This is a book which cannot fail to fascinate any readers, even those to whom the technicalities of railway construction and operation are unknown. For the author handles his material always from the "human" angle in a manner that is new to railway literature ; and he has given us a book which, however many times it is read and re-read, can never be dull, even though a model railway is its theme.

On the Footplate, by A. J. Creswell (Quadrant Publications Ltd., 390, Wakefield Road, Huddersfield). Price 2s. 6d. net.

This excellent little book provides much information about locomotives and their work, and from an angle not always appreciated by enthusiasts. The author gives a vivid description of a footplate trip between London and Leeds on the "West Riding Limited," L.N.E.R. ; the work of the driver and fireman are clearly and accurately described. Other than this, however, separate chapters deal lucidly and concisely with more technical matters ; and in a few places the author has expressed some opinions with which, we feel, some of his readers will disagree. But, generally, the book is a commendable little treatise on locomotive anatomy.

Locomotive Engineers of the Southern Railway, by Ben Webb (London : Ian Allan Ltd.). Price 3s. 6d. net.

This is the third of the "Locomotive Engineers" series, and, compared with the other two, is more comprehensive ; the author would seem to be on surer ground. The number of locomotive engineers dealt with is nineteen ; but there is an interesting and somewhat diverting introductory article as well as an informative chapter describing, in remarkably few words, the Southern Railway as it is to-day. The illustrations, naturally, are historically interesting, for the most part ; some of them are extremely rare and valuable. It is a book to be cordially recommended.

OUR MAILBAG

Irish Locomotive Colours

DEAR SIR,—I am making a model in 4-mm. scale of a class I3 0-6-2 tank locomotive of Coras Iompair Eireann.

I should like to know (1) the complete colour scheme of the above locomotives (*not the old G.S.R. colour*) ; (2) the position of the numbers and lettering ; and (3) what is the C.I.E. crest which appears on the company's wagons ?

Yours truly,

R. STOWELL.

Ilkley.

WITH THE CLUBS

The Model Railway Club

Mr. Longridge's talk on Two Rail Track dealt with the problems likely to be encountered in working to this system, and he showed some simple methods of wiring double slips and reverse loops.

The next meeting, on April 3rd, is a track night and models for the forthcoming exhibition will be collected then. The club's exhibition will be held at The Central Hall, Westminster, from April 8th to 12th, inclusive. Distribution of certificates gained will take place on April 17th.

Meetings are held at the Ambulance Room, Waterloo Station, at 7.30 p.m.

Hon. Secretary : COL. R. F. A. MELDRUM, St. Andrews, Hawkhurst, Kent.

FOR SALE, EXCHANGE & WANTED.

NOTE to Advertisers:—
Pressure on Advertising space is so great that no guarantee as to date of insertion can be given.

Trade Announcements

Rate: 6d. per word, prepaid.

Highest Cash Buyers. Large stocks all gauges and types from "OO" to 7½ in. urgently required for cash. Also electrical equipment, toys, radio and model railway parts of every description. We pay carriage all cases. Large stocks in all gauges or exchange deals.—MODEL EXCHANGE, 29, Queen's Road, Watford. 4149.

Monomarks. Permanent London Address, Letters redirected, 5s. p.a. Write—MONOMARK, BM/MONO6S, W.C.1.

Dettmar's for "O" gauge. A fine stock of good used equipment in this gauge. Track, locomotives, coaches, wagons, etc., etc. Best prices for your unwanted goods. Stamp lists.—Below.

We Require early Lowke, Gamage or Bing models, pre-group.—DETTMAR'S, 21, Craddocks Avenue, Ashtead, Surrey.

Princess Sports Depot will purchase Clockwork and Electric Gauge "O" and "OO" Locomotives and accessories. Also Meccano, complete or parts, any quantity. Golf clubs and all sports equipment, etc. We are agents for Trix, Leeds Models, etc. **For Sale**—Gauge "OO" brass Milk Churns, 2d. each; brass barrels, 1½d. each. Stewart Reidpath "OO" Coach Frame Bogies, 1s. 4d. each; 2s. 8d. pair. Hornby, Mecanno, etc. We invite your enquiries. Our aim: satisfaction.—4/10, Princess Road, Manchester 14. Tel.: MOS. 1757.

Loco. Builders. Send now for details of the finest Modelling Material of all—MONEL METAL. Supplied in sheets 12 in. × 3 in. × 38 s.w.g. (.0057 in.); Peco Coach and Wagon Wheels in stock; two-rail Wagons, Vans, materials, etc. New list, price 6d. post free.—HOPE & NIXON, Model Railway Specialists, 80, Bankfield Road, Liverpool 13.

Model Maker desires situation as Assistant in Model Railway Shop (London or South); 18 years' experience in manufacture of hand-made railway wood models in "O" to "1" gauges.—Box No. 4334, MODEL RAILWAY NEWS Offices.

Repairs to Electric and Clockwork Locomotives, "O," "OO," and Trix. Repainting, etc. First-class work. Reasonable charges.—JAMES, 182, Soho Road, Handsworth, Birmingham 21.

"O" Gauge Enthusiasts should contact us for everything in this scale. Lists issued at regular intervals, Fair prices for second-hand goods. Expert repair service in steam, clockwork and electric. Stamp lists.—DETTMAR'S, 21, Craddock's Avenue, Ashtead, Surrey.

We Require all types of goods in this scale ("O"): Modern and pre-group Locos., Coaches, Wagons, etc. Wanted urgently, Clockwork Mechanisms and Locos.—DETTMAR'S, 21, Craddock's Avenue, Ashstead, Surrey.

Back Numbers for Sale: "M.R.N.," "M.R.C.," "Railway Magazine," etc., from start. Books. Stamp list.—PINDER, 13, Forfield Place, Leamington Spa.

We Buy, Sell, and Exchange Railways from "OO" to 15-in. gauge; Boilers for ships and other working models.—BOTTERILL'S MODELS, 282, Albany Road, London, S.E.5.

Gauge "O" Locos.: L.N.E.R. 0-6-0, Class J39, by Windsor, B.-L. mechanism, "New-alloy" wheels, new con lition, 10 gns. L.M.S. 4-4-0, Class 2, by Windsor, L.M.C. mechanism, new condition, 12 gns. Selection Hornby Locos. from 17s. 6d. Gauge "OO" 4 mm. Locos: L.M.S. 2-6-4T, by Hambling, 10 gns. Selection second-hand Trix and Dublo Locos. Gauge "O" Rolling Stock: New Exley Coaches in stock, four wooden Pullman Coaches (one brake-end), brown-cream, brass bogies, 42s. each. Selection Leeds, Hornby Coaches and Goods Stock. Gauge "OO" 4 mm. Rolling Stock: Six L.M.S. Merco litho. Suburban Coaches new, 25s. each. L.M.S. interior-fitted Dining Car, Sleeping Car, six-wheel bogies, Parcels Van, new, 85s. the lot. Selection Trix and Dublo Coaches and Wagons. Lineside accessories, turntables, coaling stages, signal cabins, hoardings, handmade trees, 2s. 6d. each, hedges, etc., materials, strip, etc., in stock. Gauge "OO" Terminal Layout in baseboard, 12 ft. × 2 ft. 3 in., complete with scenery, buildings, lineside accessories including signal-cabin, water-tower, trees, bushes, etc. 50 ft. nickel-silver, outside three-rail track, 1 angle slip, 1 cross-over, 3 turnouts, 7 pairs buffer-stops. Switch-board consists of 3 controllers (split potential), 2 ammeters, 12-lever frame with 5-point motors. Would make excellent through station if required, £25.—HART MODEL ENGINEERING, 414, Brighton Road, South Croydon. Croydon 7682.

Private Announcements

Rate: 3d. per word (minimum 3s.), prepaid.
Use of Box No. 1s.

A New Book on Miniature Railways. "Our Railway Histories," enlarged 4th Edition, Boyd-Carpenter and Pearson, 52 pages, 40 photographs, maps, plans, diagrams, giving full details of two of the finest systems extant. One in "O" and the other "OO." Art paper, stiff cover. Sold only for Railway Charities. All money acknowledged, 5s. 6d., plus post 7d.—Launt House, Worksop, Notts.

Hornby-Dublo. Required to purchase full and half straight rails, half curves, isolating, quarter straights, remote points, electric track. Also Marklin ditto and rolling stock Good price paid for clean articles. All letters replied to.—Box No. 4285, MODEL RAILWAY NEWS Offices.

For Sale. Gauge "O" Track and track parts, passenger and freight rolling stock, locomotives (electric D.C. and spring-driven), buildings, wagons and coach parts, accessories, etc. by Exley, Mills, Kenyon, etc. Stamped, addressed envelope list.—Box No. 4160, MODEL RAILWAY NEWS Offices.

For Sale. Gauge "OO," Hornby-Dublo, Trix and scale fittings, wheels, accessories, track, rolling stock, buildings, locomotives, etc. Stamped, addressed envelope list.—Box No. 4161, MODEL RAILWAY NEWS Offices.

For Sale. Railway Books, timetables, photographs, tickets, magazines, etc. Model railway catalogues and books. Old and up-to-date publishings. Stamped, addressed envelope list.—Box No. 4162, MODEL RAILWAY NEWS Offices.

Gauge "OO," 10 ft. × 7 ft. *thoroughly sound* Portable Layout; rigid when erected. Completely wired. Less buildings, rolling stock. Track laid by Edward Beal. Baseboard designed and built by craftsmen. See "Craft Modelling Railways," page 316. Offers.—WARNE-BROWNE, 43 Group, Stanmore, Middlesex.

Wiring Diagram for Two-rail Track and Controls, 1s. 6d., post free.—M.R.S., Ledlanet, Fairmount, Perth.

Model Railway Transformers, input 230 v.-250 v.; output 6 v., 8 v., 14 v., 20 v., at 4 amps. maximum. In steel case, complete with lead and double adaptor, £2 2s. 0d.—L. J. BAILEY, 51, Gurney Road, Northolt, Middlesex.

"O" Gauge. Mr. N. Stanley is disposing of his large six-track, brass rail layout, mounted on detachable bench tops and complete with trestles, containing many points, crossovers, double turnouts, etc., many locomotives, including B.-L. "Flying Scotsman, B.-L. "5XB," B.-L. "Royal Scot," Leeds mechanised 4-4-0 compound, detailed scale G.W.R. 4-4-2 tank, Hornby 4-4-0 "Bramham Moor," Hornby "Princess Elizabeth," etc.; all in perfect condition. Items sold separately if desired. Write—Box No. 4345, MODEL RAILWAY NEWS Offices, or 'phone: PROspect 6467.

Shenphone Power Unit, 6, 8, 10 volts, 5 amps, £3 10s.; 9-point levers, 6d. each.—McNUFF, 25, Dorset Road, Ealing, W.5. Telephone: Ealing 4908.

Gauge "O" Hornby 0-4-0 Tank Locos., clockwork, 50s.; electric 6/8 volt D.C., 60s.; points, curves, straights, electric, tinplate, reasonable.—Box No. 4332, MODEL RAILWAY NEWS Offices.

Large Quantity of Twin Trix Model Railway Equipment in very good condition. Will sell separately. S.A.E. list.—Box No. 4333, MODEL RAILWAY NEWS Offices.

For Sale. "Princess Royal" 6200, "O" gauge, beautiful hand-made scale model, Mills' mechanism, perfect, unscratched, very flexible and smooth from stationary to full speed, £45—Box No. 4343, MODEL RAILWAY NEWS Offices.

Sale. Seven pairs compensated brass Millbro Coach Bogies, with cast wheels; new condition.—Box No. 4344, MODEL RAILWAY NEWS Offices.

Sale. New, unused B.-L. Signals and Wagons. S.A.E.—TOWLER, 52, Clifton Street, Lytham, Lancs.

Wanted

Wanted. Gauge "OO" Clockwork Engine; also trucks. Please state what and price.—D. J. COCKBURN, 22a, Edith Avenue, Lipson, Plymouth.

Wanted. Trix Straight Rails and Rolling Stock (goods). Must be in good condition.—NORTH, 182, Westcombe Hill, Blackheath, London.

Wanted. Back copies of MODEL RAILWAY NEWS, prior to January, 1947, in reasonable condition; also books on Model Railways (gauge "O"). State price.—HARVEY, 56, Carter Gate, Newark, Notts.

Wanted. Old type "Hornby" locos., rolling stock, heavy tinplate construction. Manufactured 1920-27.—Box No. 4293, MODEL RAILWAY NEWS Offices.

Wanted. Gauge "OO" locos., rolling stock, and track, by Hamblings only. Must be excellent condition.—W. L. CALDWELL, 15, Sussex Road, Northway, Maghull, Nr. Liverpool.

Wanted. Books relating to British Railways. Also postcards, photos., etc.—LEFTWICH, 7, Crabton Close Road, Boscombe, Hants.

READY SHORTLY

New Titles

MECHANICS IN MINIATURE — by Percival Marshall
Royal 8vo. — 192 *pages* — 10s. 6d.

THE AMATEUR'S WORKSHOP — by Ian Bradley
Crown 8vo. — 272 *pages* — 8s. 6d.

MODEL PETROL ENGINES — by Edgar T. Westbury
Crown 8vo. — 256 *pages* — 7s. 6d. *net.*

MINIATURE BUILDING CONSTRUCTION — by John H. Ahearn
Royal 8vo. — 164 *pages* — 8s. 6d. *net.*

"OO" GAUGE LAYOUT DESIGN — by E. F. Carter
Crown 8vo. — 112 *pages* — 3s. 6d. *net.*

and the following New Editions, completely revised and re-written

RAILWAY MODELLING IN MINIATURE — by Edward Beal
Royal 8vo. — 188 *pages* — 10s. 6d. *net.*

PETROL ENGINED MODEL AIRCRAFT — by Lt.-Col. C. E. Bowden
Crown 8vo. — 240 *pages* — 7s. 6d. *net.*

PERCIVAL MARSHALL & CO. LTD.
23, Great Queen Street, London, W.C.2.

MODELS (CITY) LTD.
2, The Arcade, Liverpool Street (Met.) Station, E.C.2.
Bishopsgate 8640.

All types of Models bought, sold or part exchanged.
Largest stocks in England. Gauges "OO" to 10½ in.
Stationary Engines, Ships, and Aeroplanes.
Highest Cash Buyers.
Models to scale specialists. Lists free
Part exchange.
Write, 'phone or personally call.

GOOD TRACKWORK is the foundation of any railway, and our scale "3-rail" track is both thoroughly reliable and most realistic in appearance. The demand has been so great recently that we must apologise for any delays that have occurred, with the assurance that we are doing our best to overcome material shortages and increase production.
WE ARE AGENTS for the productions of the Leeds Model Co., The Zenith Model Co., Rocket Precision Ltd., Shenphone, Modelcraft, and Messrs. Rankine Gray, and carry a full range of their specialities.

R. M. EVANS & CO.,
92, Pimlico Road, London, S.W.1.
(5 mins. Sloane Square). Slo. 9308.
New Catalogue available shortly, price **9d.**

"OO" **MERCO** "OO"

Building Papers 1a, 6, 6a, 8, 11 withdrawn. Minimum **3s.**, post **3d.** "OO" Litho Rolling Stock List by request. Now in stock, F/82 L.M.S. Coaches.; PO/1 and 13 P.O. Wagons; F/24/5 L.M.S. Vans; F/24/6 G.W.R. Vans. Send **3d.** for Building Papers List. State Gauge and mention "M.R.N.

MINIATURE EXHIBITION RAILWAYS CO.,
64, Watson Street, DUNDEE, Angus.

AGENT FOR IAN ALLAN'S PRODUCTIONS **AMR** M.E.T.A. DEALER

82, ARKWRIGHT ST., NOTTINGHAM.
Good Range of Model Railway Equipment.
Gauge "OO" & "O"
Skinley's Railway Drawings
Books for Modellers and all interested in Railways
E.R.G. STOCKISTS. AGENTS FOR SHENPHONE, MILBRO, ROCKET PRECISION, ETC., ETC.
List (1947) **6d.**, post free. State Gauge.
List (books only) **2d.** post free

Insulated Track, 16.5 or 18 mm. Supplies promptly, all normal turnouts, etc. Special point-work under one week. Hand-made locos., etc., to order, any gauge.

Repairs. Rebuilds. Used models bought and sold, or taken in part exchange. Send **3d.** for lists or **6d.** if samples "OO" track required.

MULTI-MODELS
Temporary address :—
34, Littleton Cres., Harrow, Middlesex.
'Phone : Byron 3168.

"O" "SKINLEY" BLUEPRINTS "OO"
Special Announcements !
Fuel Cuts : These have considerably curtailed the printing of "Skinley" Blueprints, and in consequence, stocks have fallen to a low level. Therefore, it will not always be possible to give our normal "delivery per return" service, and all orders will be liable to some delay.
Envelope Shortage : As bulk supplies are now unobtainable, we shall in future only be able to post prints to clients if an envelope is sent us for this purpose. It should be as large as possible, to keep the folding of prints to a minimum.
Send **4d.** for the 7th Edition
"Skinley" Blueprint Catalogue
JOHN E. SKINLEY, M.J.Inst.E.,
132, High Street,
Southend-on-Sea, Essex.

THE HOBBIES SHOP
202, Keighley Road,
Frizinghall, Bradford.
Good Stocks of Model Railway Equipment in G."O," Coaches, Vans, Wagons, Mechanisms, Motor Units, Locos. Steam and Electric Locos. built to order in G."O" and G."1."
Send 3d. *for price list of G."O" Goods.*
M.E.T.A. Dealer

The Pictorial Railway Journal
"RAILWAYS"
has already established a reputation for fine illustrations and bright, interesting articles printed on art paper throughout.
Information and Pictures of modelling interest are included each month.
1/- on the 1st of each month *from leading bookshops and W. H. Smith & Son Ltd., or direct from the Publishers* (**1/2 post free**)
RAILWAY WORLD LTD.,
245, CRICKLEWOOD BROADWAY, LONDON, N.W.2

THE
LEEDS MODEL CO.
LTD.

12v.D.C.MECHANISMS
now available at all
ELLEMSEE AGENCIES.

The most compact and the most powerful mechanism for its size on the market.

4 *coupled*—with choice of 4 centres and 4 different sizes of wheels. Double centre collectors **£4 10s. 0d.**

6 *coupled*—four different centres and wheel diameters **£5 0s. 0d.**

Call and Inspect them at your nearest Ellemsee agent, who will be delighted to secure one for you. Tank locos. available before Easter.

Recently appointed Ellemsee Agents :—

BRIGHTON—Messrs. A.B.C. Ltd., 34, Queens Road.
EPSOM—Messrs. Hiscox Bros., 3, Corner House Parade, Epsom Road, Ewell.
HARROW—Messrs. Adelt Ltd., 431, Uxbridge Road, Hatch End, Middlesex.
KINGSTON—Kingston Model Supplies Ltd., 6, Thames Street, Kingston-on-Thames.
LONDON, N.W.11—Murray's Model Stores, 409, Lordship Lane, Tottenham, N.11.
TUNBRIDGE WELLS—The Model Shop, 34, Camden Road. (In place of Happy Hours.)

MILBRO
TRUE TO SCALE
TRACK PARTS
for Gauge O.

Steel Rails	4/-	per doz. yds.
Brass Rails	9/-	Do.
Cast Chairs	3/3	per 100
Centre Chairs ...	3/6	Do.
Sleepers	3/6	Do.
Battens	4/-	per doz. yds.
Fishplates	6d.	per doz.
Point Levers	1/9	each
Spikes (Steel) ...	3½d.	per pkt.
Spikes (Brass) ...	4½d.	Do.

All the materials are to META Standards where such are laid down.

SPECIAL NOTE.—Supplies of rails are limited at present, and orders for these must be taken in rotation.

Our new post-war catalogue, price 6d., is now ready. Send for a copy today !

MILLS BROS. (Model Engineers) LTD.
ST. MARY'S RD., SHEFFIELD, 2

BRITISH RAILWAY STATIONS ILLUSTRATED

Cornwall, Devon and Somerset. Book One: 55 selected station views. Price **3s. 6d.**, post free. Book Two : North Wales, will be ready shortly.

In course of preparation :—Rail and Platform Plans of British Stations. Part I. : 90 plans (not to scale) of large and small stations showing track layout, buildings, lineside features, with salient information. Further books in this series will appear as circumstances permit. Price **5s.**, post **2½d.** As issued, parts may be bound into volumes.

THE RAILWAY & TECHNICAL PRESS, 185, Nutfield Road, South Merstham, Surrey.

The mark that stands for all that's best in "OO" modelling

Stockists throughout the country

For details of supplies of **"THE MODEL RAILROADER"** and **"TRAINS,"** ask your local ERG stockist for leaflet ; if unable to obtain, send **1d.** stamped addressed envelope to us, marking "MR & T" in top left corner (no letter needed).

Trade enquiries invited.

E. RANKINE GRAY
691, Christchurch Road, Boscombe, Bournemouth

"OO" 4 m/m. SCALE

HAMBLINGS
NEW THIS MONTH

This month we introduce an entirely new litho sheet produced by a most modern process that gives a perfect reproduction of colour. Sheet of three L.N.E.R. teak-finish Suburban articulated coaches, perfect colouring and finish, the finest ever offered, per sheet **1s. 9d.**
Postage one sheet or more ... ... **4d.**
Further sheets in hand ; watch for details.

Another useful item now available :—

Phosphor-bronze spring, perfect tension, machine-made for replacement in our prewar motors, Romford, Hornby, etc. Per 2 inch length enough for at least 4 springs ... ... **6d.**
Many more interesting items are on the way ; watch for details.

All latest Publications available as published.

HAMBLINGS
THE HOME OF "OO" GAUGE.
10, CECIL COURT, CHARING CROSS ROAD, LONDON, W.C.1

Printed in Great Britain for the Proprietors by Electrical Press Ltd., Cordwallis Works, Maidenhead Berks., and published by Percival Marshall & Co., Ltd., Cordwallis Works, Maidenhead, Berks